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VOLUME V

MILITARY HOSPITALS IN THE UNITED STATES

PREPARED UNDER THE DIRECTION OF
MAJ. GEN. M. W. IRELAND, M. D.,
Surgeon General of the Army

By

LIEUT. COL. FRANK W. WEED, M. C., U. S. ARMY

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LETTER OF TRANSMISSION.

I have the honor to submit herewith Volume V of the history of the MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR. The volume submitted is entitled, "MILITARY HOSPITALS IN THE UNITED STATES."

MERITTE W. IRELAND,
Surgeon General, United States Army.

The SECRETARY OF WAR.

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[a] The highest rank held during the World War has been used in the case of each officer.

PREFACE.[a]

The purpose of this volume is twofold: to furnish a record of experiences incident not only to the actual provision of the military hospitals in the United States during the World War but to their administrative operation as well; and, in so far as it has been practicable, to record the histories of the hospitals separately in order that their individual identities might be perpetuated.

The material has been arranged to deal with generalities first and then with the individual organizations.

Professional activities are considered in other volumes of the history, appropriate in each case to the particular specialty involved. The plan consistently followed here has been not to include any of these except as they intimately affected organization or administration, when, to avoid a breach in continuity or the semblance of devitalization, they have been briefly recounted.

It was obviously impossible to include complete histories of all the many military hospitals in the United States, so a representative of each of the various types has been selected for description. Hospitals whose histories were most complete were chosen in each instance for this purpose.

To show what each of the hospitals accomplished and the staff requirements of each, statistical tables have been prepared exhibiting, numerically, the number of patients treated and the personnel provided for their treatment. These tables have been appended to the hospital concerned when that hospital has been separately considered; otherwise, they have been given in synopsis form by hospital groups. These tables are imperfect: complete data either were not furnished by the hospital during the war, or they have been misplaced since. They are not considered an end, but rather a means to an end, and for this reason it is felt that they will amply serve their purpose despite minor errors.

During the earlier stages of the preparation of this volume Lieut. Col. Casey A. Wood, M. C., was in direct charge of its compilation. Colonel Wood accomplished much valuable work on his assignment, but the exigencies of the service resulted in his separation from activities connected with the history, except as a member of the editorial board. Since Colonel Wood's separation from the service in October, 1920, much pertinent material became available, necessitating the rearrangement of the volume.

Acknowledgment is made to Col. Charles Lynch, M. C., for much of the material in Chapter XXII, on embarkation and debarkation hospitals; to Dr. Loy McAfee, for helpful advice on the general arrangement of the contents of the volume and for the condensation of a number of the individual histories of base hospitals; to Col. A. E. Truby, M. C., for the chapter on the airplane ambulance; to Lieut. Col. S. M. DeLoffre, M. C., for data on the construction of aviation hospitals; to Maj. Floyd Kramer, M. C., for the material on the construction of temporary hospitals and the procurement of hospital space in existent buildings; and to Mr. Arthur W. Hodgkins for the preparation of the illustrations from which practically all of the line cuts have been made.

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[a] For the purposes of the Medical Department of the United States Army in the World War, the period of war activities extends from April 6, 1917, to December 31, 1919. In the professional volumes, however, in which are recorded the medical and surgical aspects of the conflict as applied to the actual care of the sick and wounded, this period is extended, in some instances, to the time of the completion of the history of the given service. In this way only can the results of the methods employed be followed to their logical conclusion.

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[a] Tables of statistical data concerning individual hospitals have been placed at the end of the history of each hospital considered.

INTRODUCTION.

EVOLUTION OF THE MILITARY HOSPITAL.

ANCIENT PERIOD.

Of those who, during the World War, were patients in any of our large, especially constructed military hospitals there were probably few who reflected that they were having the unique experience of being the first soldiers in the history of the world so favored as to receive treatment in a military hospital, the perfections of which rivaled the refinements of the best contemporary civil institutions for the care of the sick. That this is irrefutable a rapid survey of medico-military history and an examination of the data set forth in this volume will substantiate.

Hospital Care of Ancient Warriors.

Turning back the leaves of history to the records of the earliest times we find that, throughout, it has been customary to remove wounded soldiers from the field of battle and to place them in temporary shelters where they were given such crude treatment ("wound surgery") as the times afforded. Even in the more remote period, or the domain of unauthenticated history, as related by Homer, the wounded were transported by hand or chariot to the tents or "black ships" to the rear.[1] There was, as might be expected, no organized effort to either rescue or care for the wounded in these early times; nor was such the case until a comparatively late period. Since the improvised shelters were extremely temporary, it was the custom among the Greeks and Romans to call into use houses, temples, even stables wherein the soldiers were refreshed and their wounds builded up.[2] It was not until after the beginning of the Christian Era that organized effort was made to rescue and adequately care for the wounded in permanent buildings which had been especially constructed for that purpose.

Stationary Military Hospitals.

In republican Rome private hospitals and the homes of the wealthy had been utilized for the care of wounded Roman soldiers, so long as military activities remained confined to the vicinity of Rome.[3] With the extension of conquest to unknown lands, and the establishment of standing armies in occupied territories, it became necessary to provide special hospitals for the Roman soldiery there. Some of these hospitals, constructed of stone during the latter part of the first century or beginning of the second century of the Christian Era,[3] suggest a striking resemblance to the military hospitals planned and erected by the British and French about 17 centuries later. They consisted of series of wards built about a quadrangle and opening on both sides of longitudinal corridors; each ward only sufficiently large to accommodate approximately a dozen patients. There were such refinements as sewers, water piping, a heating plant, kitchen, and apothecary's shop. This surprisingly excellent arrangement for caring for the sick and wounded continued throughout the Byzantine period (476 to 732 A. D.), but ceased with the decline of Roman influence.[4]

MEDIEVAL PERIOD.

Modern hospitals had their incipiency during that part of the Middle Ages when the great waves of the Crusades, breaking on the deserts of the East, carried back in their ebb a flotsam of the lame, the halt, and the blind to the cities of medieval Europe. To care for these and the plague of lepers introduced at the same time, the charitable orders of the church founded places of shelter for the poor and helpless.[5] These institutions, called hospitals, were designed merely to house their helpless inmates, and had little resemblance to the scientifically constructed and administered hospitals of the present day.

The revival of the direct hospital care of warriors is credited to Isabella, Queen of Spain, who, during the siege of Alora (1184), sent to the camps six large tents and their furniture, together with physicians, surgeons, medicines, and attendants. These tents were called the "Queen's Hospital."[6]

The influence of Queen Isabella on the establishment of military hospitals was afterwards seen at the siege of Metz (1552), when, under Emperor Charles the Fifth, there were included the organizations of both field and garrison hospitals.[7]

EIGHTEENTH-CENTURY HOSPITALS.

Toward the close of the eighteenth century, widespread attention was directed to the wretched general condition of the hospitals throughout Europe.[8] In the Hôtel Dieu, at Paris, at that time a veritable hotbed of disease, there were approximately 1,220 beds, the most of which contained from four to six patients. In larger halls there were patients crowded on pallets or often lying about miserably on heaps of straw, which was in vile condition. Vermin and filth abounded and the ventilation was often so abominable that the attendants and inspectors would not enter in the morning without a sponge dipped in vinegar held to their faces. Although the Hôtel Dieu was not a military hospital, its condition reflected the general lack of knowledge of hospital construction and management, and especially the high value of the basic principles of sanitation in connection therewith—the provision of adequate air space, and means for ventilation and the admission of sunlight.

The true principle of hospital construction was at first discussed by a committee of the French Academy of Sciences,[9] which in 1788 made a final report as to conditions which a model hospital should fulfill, specifying that the wards should be in isolated pavilions; that each ward should be 24 feet wide, from 14 to 15 feet high and 115 feet long; and should contain from 34 to 36 beds; and that the windows should extend to the ceilings. A part of the committee visited England,[10] and along with the ideas of the English ward utilities, they were impressed with the necessity of limiting the beds in a ward to from 12 to 13, a custom entirely at variance with that which prevailed in the Hôtel Dieu. They took ideas from the plan of the pavilion hospital at Stonehouse, England,[10] in all probability the first pavilion hospital, which guided them in preparing their famous report.

EARLY AMERICAN HOSPITALS.

In America, the first account of a hospital in the territory now known as the United States was of the one established on Manhattan Island[11] in 1658, for sick soldiers—who had previously been billeted in private families—and for the West India Co.'s negroes. In 1679 this hospital consisted of five houses.

During the American Revolution, General Washington evinced the kindest interest in the sick and wounded; but there was much suffering on account of the poverty of the Government and the meager resources of the country, preventing the possibility of building and conducting hospitals. Consequently, it was a necessity to make use of all kinds of houses for the purpose of locating the sick and wounded; and we find but little recorded as adding to the development of hospitals.[12]

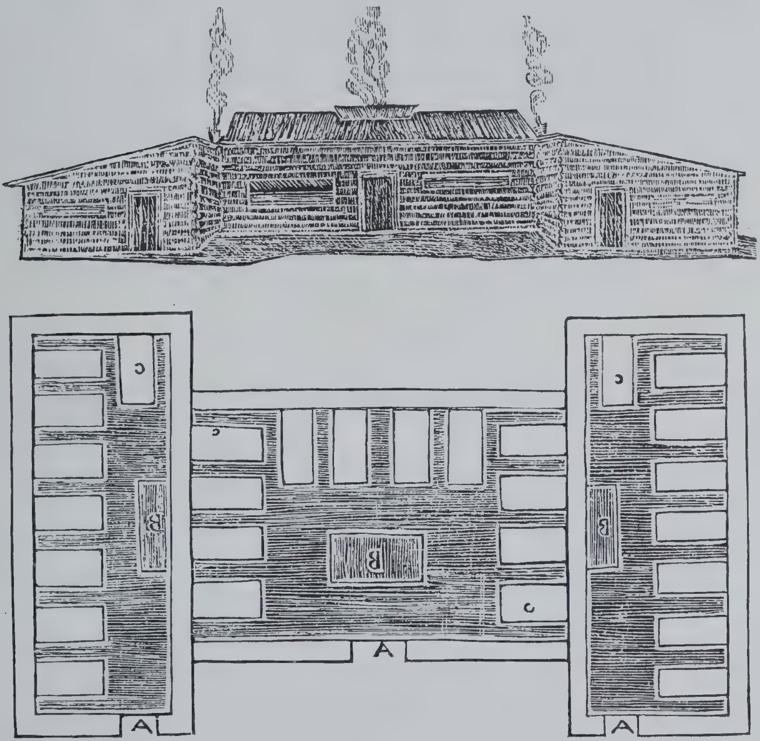


FIG. 1.—Tilton's Log Hut Hospital, New Jersey, 1780. (From an old wood cut.)

During the winter of 1779–80, Dr. James Tilton, of Delaware, was in charge of the general hospital at Trenton, N. J., and to him is to be accorded the credit of endeavoring to diminish the sickness, resulting from crowd poisoning, by a new system of hospital construction.[13] He did away with the hospital tents and private houses then in use; and caused to be constructed a large number of log huts, built roughly, so that air could penetrate the crevices. These huts were without wooden floors, the ground being hardened or baked by heat, and each hut was intended to accommodate about 8 to 12 men.

During the War of 1812 the general hospital, established at Burlington, Vt., [14] consisted of 40 wards containing between 700 and 800 patients. Wards were appropriated to infectious or contagious diseases, surgical cases had rooms separate from the febrile, and venereal and itch patients were assigned to their separate wards and not intermixed with men of different diseases. In an adjoining house the surgeons were accommodated with comfortable rooms where one or more always remained.

INFLUENCE OF THE CRIMEAN WAR ON HOSPITALS.

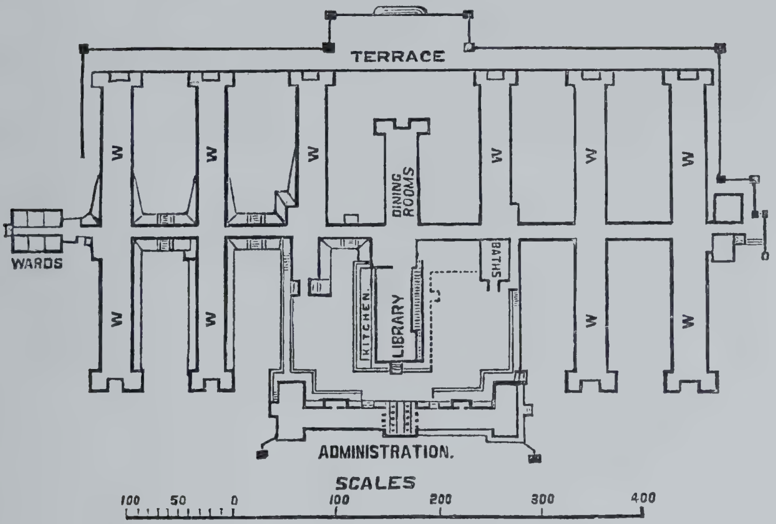
The next progressive step after the report of the French Academy's committee, in the development of hospitals, was brought about by the fearful death rate of the English and French armies in the beginning of the Crimean War. So great was the mortality that the English people as a whole were aroused to the necessity of better provision being made for the sick and wounded. Miss Florence Nightingale, who had had training as a nurse at Kaiserworth, and a selected band of 37 nurses were sent to the seat of the war, on October 24, 1854.[15] In 1855, the British Government appointed a sanitary commission to proceed at once to Crimea and Scutari.[15] Miss Nightingale and the commission succeeded in introducing many valuable sanitary reforms in the British army in the East.[16]

In 1855 the sanitary inspectors of the British army in Crimea suggested the use of wooden huts or barracks for hospitals,[17] and at the same time proposed a permanent tent hospital. It was found by experience that simple wooden huts raised from the ground, with double walls to protect from the heat in summer and cold in winter, made with ridge ventilation, and heated by means of open fires or stoves, gave far better results than any other kind of building.

The practical results of the interest in hospitals brought about by the Crimean War were the building of the famous Herbert Hospital at Woolwich,[18] and establishing on a sure basis the detached plan of hospital construction which had been proposed and a small one erected (Plymouth Naval Hospital), just 100 years before. The Herbert Hospital was an improvement on the Lariboisière, in Paris, finished in 1854; but like it was modeled after the plan proposed by the French Academy's committee in 1786—the improvements being mainly in the details of internal arrangements.[10]

Until the building of the Herbert Hospital, the Lariboisière was the model hospital of the world.[10] The influence of the Crimean experience did not do so much for France; nothing better than the Lariboisière was proposed.

Before the interest in sanitary and hospital reform, caused by the Crimean War, had quieted down, the American people had the opportunity offered them to make use of the valuable suggestions published in the reports of the English commission, and in doing so succeeded in developing the most perfect system of army hospitals ever known to the world.



HERBERT HOSPITAL.

FIG. 2.—Herbert Hospital, Woolwich, England.

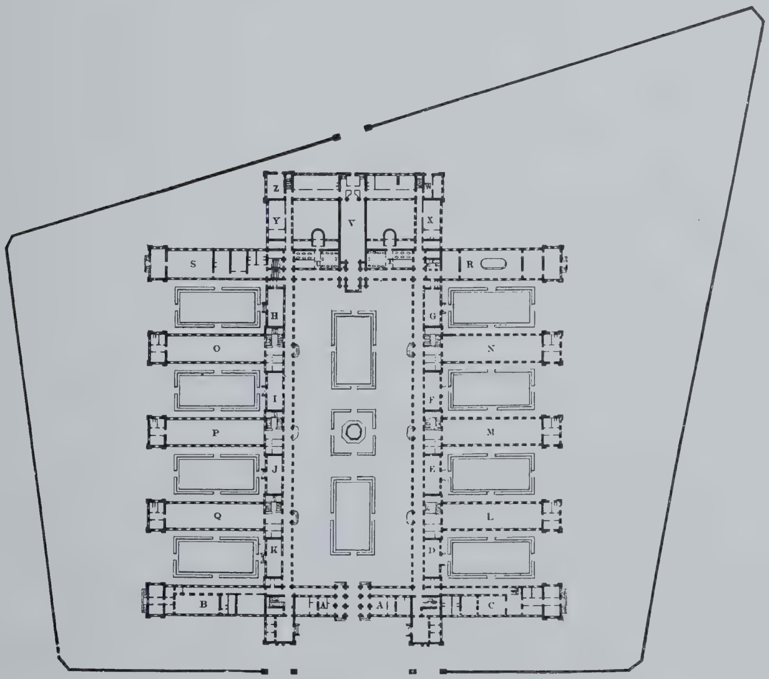


FIG. 3.—Lariboisière Hospital, Paris.

CIVIL WAR HOSPITALS.[a]

Prior to the Civil War the troops composing the United States Army were chiefly distributed at garrisons of the various units of the general system of our coast defense, or for the protection of the Indian frontier. Each of these stations was provided with a small post hospital in which serious cases of illness were treated.

When the troops began to go into camp, at the commencement of war, each regiment established a regimental hospital on the same general plan. Hospital tents or buildings, temporarily occupied, afforded shelter for the more serious cases. When small regiments were grouped together as brigades it was often found convenient to establish a congeries of regimental hospitals at one point, and this led to their consolidation in many instances as brigade hospitals. At a later period, the same tendency to consolidation led to the union of the several brigade hospitals of a division, forming thus a division hospital. The division hospital was sometimes a mere aggregation of a regimental or brigade hospital; but in its highest development, in connection with large armies in which troops were maneuvered by divisions, it formed a single unit having the same relation to the division that the regimental hospital had to the regiment.

Very soon after the mobilization of troops was begun in 1861 it was found that the system of post and regimental hospitals was inadequate to provide for all the sick. Difficulty was especially experienced when a regiment changed station. It became necessary, therefore, to organize near the bases of operations independent hospitals to receive and care for the sick necessarily left behind when troops moved, as well as those for whom regimental hospitals were inadequate, and the wounded after battles. Such establishments, known as general hospitals, being of a more or less permanent character, it was possible to provide more conveniences and comforts for the care of the sick and wounded than could be furnished in the field, and hence it became the custom to send the more serious cases, especially those requiring protracted treatment, to a general hospital. When, in the course of events, the general hospitals near the several bases of operations became encumbered with sick and wounded, others were established throughout the North, and the hospitals near the bases of operations were evacuated upon the more distant establishments, from time to time, to make room for the continual stream of diseased and disabled which constantly flowed from the scene of active operations.

At the beginning of the War of the Rebellion this country knew nothing practically of large military hospitals. It was, therefore, not surprising that existing buildings were used. Hotels, churches, seminaries, dwellings, warehouses, and factory buildings were used at the various places in the North and Middle West as extemporized hospitals.

Frequently, when the ground in the vicinity of a building taken for hospital purposes was of a suitable character, the demand for increased accommodation was supplied by hospital tents pitched so as to form a series of elongated pavilions, which in some instances were replaced later by long wooden pavilions.

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[a] Abstracted from Medical and Surgical History of the War of the Rebellion.[19] Illustrations used in this connection are slightly reduced from the originals, consequently scales on the reproductions do not apply.

The prototype of the pavilion hospitals of the Civil War was erected in West Virginia. This was before the need of specially constructed hospitals in the large cities had received a practical recognition, and was due to the movements of large bodies of troops in West Virginia as well as the absence of adaptable buildings. This was a series of ridge ventilated wooden sheds, 130 by 25 by 14 feet to the eaves, each divided by transversal partitions into four wards of 20 beds each. The wards were roughly constructed, were well adapted for use in warm weather, but, because of the lack of shutters on the ridge ventilators, permitted the cold winds and snow to penetrate in the winter to an extent unbearable to the patients.

The inauguration of the peninsular campaign in 1862 filled the hospitals of Washington with sick men of the moving army. It occasioned also the vacation of a number of barracks buildings near Washington and Baltimore, which were acquired by the Medical Department, and though intended to be used for makeshift hospitals, many retained the status of general hospitals to the end of the war.

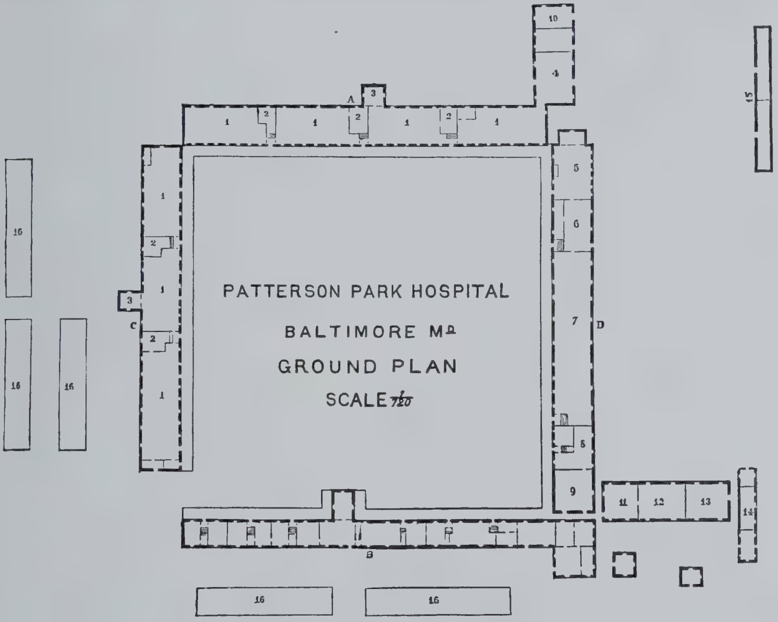

FIG. 4.

To adapt this type of dormitories to hospital purposes, they were generally repaired; additional windows were inserted; and ridges were laid open for ventilation in summer and louvered exits were provided for winter use. The lower rooms of two-storied barracks were connected with the ridge by ventilating shafts.

The greatest defect in the barrack buildings was their arrangement or relative position on the camp ground, which was seldom the most appropriate for the aggregation of hospital pavilions. They were either so detached as to greatly augment the difficulties of administration, or so massed around a central point as to materially interfere with ventilation.

The difficulties encountered in the use of illy adapted buildings for hospitals led the United States Sanitary Commission, early in the winter of 1861, to urge upon the Government the importance of building hospitals on the pavilion principle. The first of the hospitals constructed in accordance with this suggestion were the Judiciary Square and Mount Pleasant hospitals, Washington, D. C.

The most grievous fault in the plan of these hospitals lay in the common atmosphere which the single roof and the screen partitions gave to all the rooms occupied by the sick, including even those assigned for the purpose of isolation. Although nominally built upon the pavilion principle, they were wanting in the very point which was the leading idea of the system. A central corridor with a double row of attached pavilions, five on each side, does not appear to have met with favor, after recognized failure of attempts of this kind on the Mount Pleasant type.

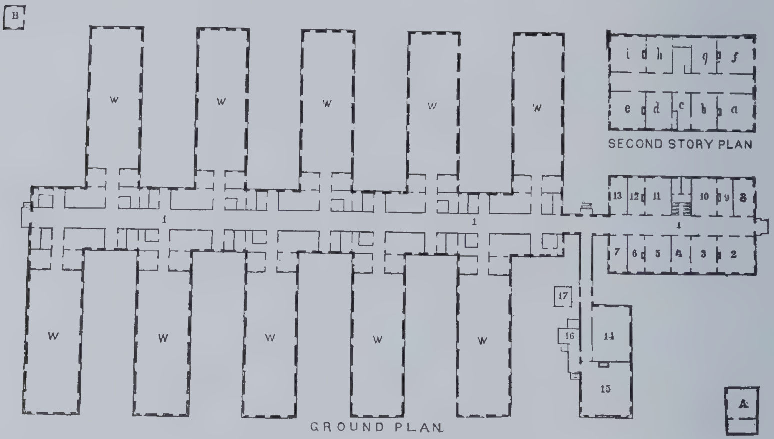

FIG. 5.—Judiciary Square Hospital, Washington, D. C.

The improvements which were made in each succeeding hospital erected during the Civil War had reference to the character of the construction of the wards, their lighting and ventilation, the attachment of their bathrooms and toilets, and their arrangement as a whole, including their connection one with another and with the administration and executive departments of the hospital. Structural refinements replaced the former coarse joining and rough finishing. The pavilions were gradually reduced in length from those of 248 feet with transversal partitions, giving four wards, to a clear ward length of 150 feet in each building. The width and height of the wards became increased to 24 or 25 feet and 12 or 14 feet, respectively. The open ridge, which admitted driving rains and snows, received protection, and other means of ventilation connected with the heating of the wards were introduced. Lastly, faults of aggregation were recognized and avoided.

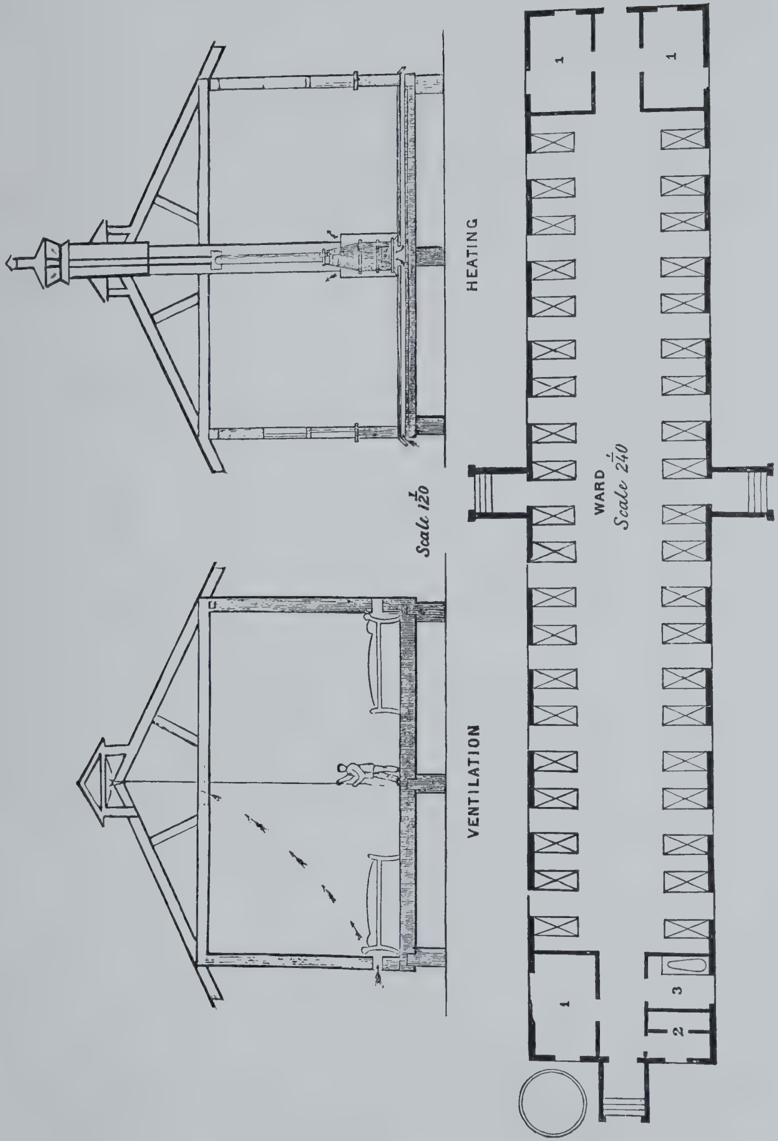

FIG. 6.—Sedgwick Hospital, Greenville, La

The experience of the war was decidedly in favor of the pavilion system, each pavilion constituting a single ward isolated from adjacent buildings by somewhat more than its own width and connected by a covered walk with the other buildings of the hospital. In an aggregation this separation was effected without removing any of the wards to an inconvenient distance from the administration and executive buildings, by radiating them around some central point in a form determined by the configuration of the ground available for building.

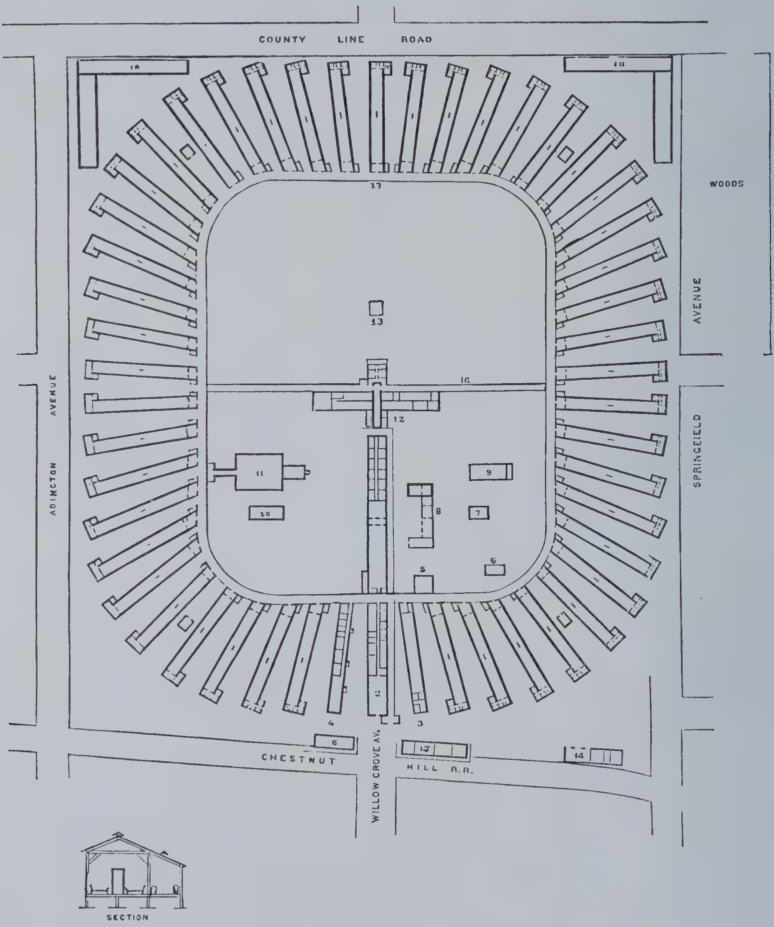

FIG. 7.—Mower Hospital, Chestnut Hill, Pa.

The force of medical officers indicated a decided preference for a pavilion length affording space for not more than 50 beds. The experience of the British in Crimea with similar pavilions was in favor of a ward containing from 26 to

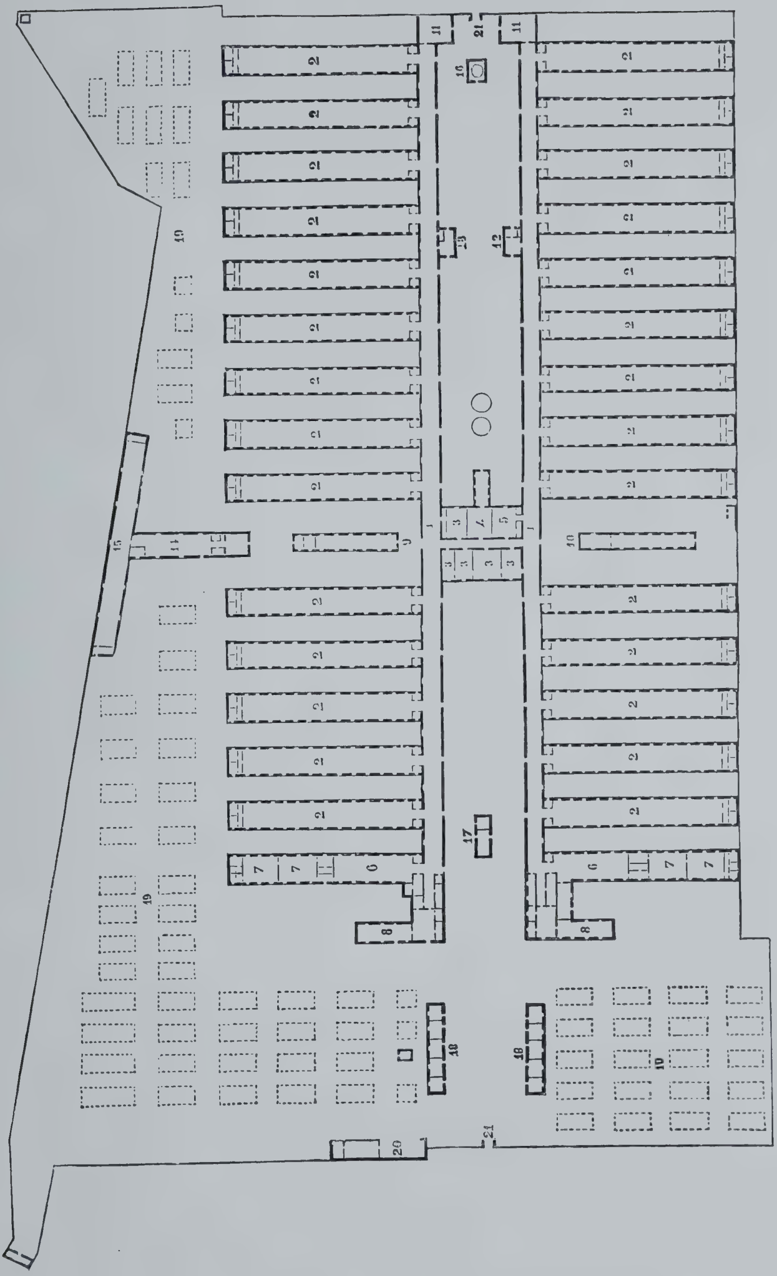

FIG. 8.—Satterlee Hospital, West Philadelphia, Pa.

30 patients as giving better ventilation and greater comfort and economy of labor than one of larger capacity.

From the foregoing progressive stages through which general hospital construction passed during the War of the Rebellion, it would seem that the United States Army slowly and independently arrived at conclusions similar to those drawn by the British and French. Billings, in his report on barracks and hospitals, states, in referring to the pavilion type of hospital recommended by the British, "The experience gained during the late war * * * contributed greatly to the recognition of its value in this country."[9]

AMERICAN MILITARY HOSPITALS IN THE INTERIM BETWEEN THE CIVIL AND WORLD WARS.

Of the large especially constructed Civil War hospitals none has survived the ravages of time. Of the many post hospitals of that period—some of which were used as general hospitals—many remain, in name at least, for by alteration or new construction their original appearance is no longer recognizable. This alteration in the post hospitals was largely due to the publication of Billings' "Report on Barracks and Hospitals,"[9] which forms a classic treatment of military hospitals in general.

During the Spanish-American War nothing in the way of general hospital construction was accomplished which would add to the developed plan of the Civil War. Of the general hospitals established, the majority were extemporized by the use of tents, vacant barracks or other existing buildings—hotels or school buildings—post hospitals, etc. Where increased capacity was requisite, when existing buildings were used, tent wards were erected.[20]

Several semipermanent general hospitals were constructed shortly after this period, three arrangements of the pavilion wards being used.[21] One consisted in locating the wards on the outer side of a covered way, shaped like an inverted V; in the establishment of them on two sides of a central square; and in arranging them in two parallel lines on each side of a covered passageway.

The 1,000-bed hospital at Fort Monroe was built in the form of an inverted V, similar to the plans of the Lincoln and McClellan Hospitals of the Civil War, and the hospitals used by the French at Metz in 1870–71. The administrative portion of the hospital was located between two covered corridors; the entrance standing obliquely away from the latter in such a manner as to receive the full benefit of wind and sun without interference from each other. The chief disadvantages of this hospital were difficulty of administration and a too great size of the individual ward.

The general hospital at Savannah, also having a capacity of 1,000 beds, was well planned and arranged for purposes of administration; the beds being closely placed at right angles to a long central corridor. The long axes of the pavilions, however, extended north and south—an undesirable arrangement in hospital buildings in such a southern latitude. The buildings were also too compactly placed, seriously interfering with each other in respect to air currents.

The general hospital at San Francisco had 10 general wards, each with an inside length of 153 feet and, including lavatory and administrative rooms of 180 feet. The width of the ward was 25 feet; the space between wards was 35 feet. These buildings were located in parallel lines on each side of a central square in which was placed the operating rooms and mess halls. The square was partially closed in at one end by the administrative building and was bordered by a covered passageway connecting all the wards, the block plan resembling very closely that of the Lariboisière except that the latter had three-storied wards.

This adaptation of the pavilion ward has proven, in its grouping of buildings, to be very convenient and easily administered; and, as will be seen later, materially influenced the block plans for the hospitals constructed at the large camps during the World War.

HOSPITAL SITUATION AT THE TIME OF OUR ENTRANCE INTO THE WORLD WAR.

In April, 1917, the number of beds in hospitals of the Army was 9,530, distributed among 131 post hospitals, 4 general hospitals, and 5 base hospitals.[22]

The usual type of our post hospital differed materially from the military hospitals in use in foreign countries.[23] In our service, the small number of troops located at any one place made our Army hospital buildings of correspondingly small size. Considerations of economy also forced the building of post hospitals of such a compact nature that they naturally and unavoidably presented many defects incident to all activities being present within the same structure. Among these faults may be mentioned the crowding together and close connection of the adminstrative portion, wards, kitchen, lavatories, etc., which should be separated one from another. Exceptionally, there were large post hospitals, to which, by special and successive appropriations, additions were made until the faults mentioned above were partially eliminated.

The character of the construction of the general hospitals was very similar to that of the post hospitals, the difference being mainly in size, in the aggregation of buildings, and in the more elaborate installation of surgical and medical appliances for the recognized specialties in general hospitals. Though designated general hospitals, but two served for general cases—the Letterman General Hospital at San Francisco, Calif., and the Walter Reed General Hospital, Takoma Park, District of Columbia. The general hospital, Fort Bayard, N. Mex., was used solely for the treatment of pulmonary tuberculosis,[24] and the Army and Navy General Hospital, Hot Springs, Ark., cared for those cases for which the hot springs of Arkansas had a high reputation for benefiting.[25]

The post and general hospitals were, usually, of permanent brick and stone construction. Some were of wood, some partly of stone, or brick and wood; a few were built of concrete. They contained central heating plants—hot-water systems usually—had range cooking facilities, and were rarely more than two-storied. The size of their wards varied, containing from 6 to 36 beds, dependent upon the size of the hospital. As a rule, the permanent hospitals were well constructed, durable, well lighted, and had ample porches.

During the concentration of troops along the Mexican border in 1916, semipermanent hospitals were erected at various places for their care and treatment.[26] The two existing base hospitals at Fort Sam Houston, Tex., and at Fort Bliss, Tex., of about 200 beds each, were enlarged by the addition of pavilion wards, and increased to the capacity of 750 and 900 beds, respectively.

REFERENCES.

(1) Eleventh Iliad.
(2) Withington, E. T.: Medical History from the Earliest Times. The Scientific Press, (Ltd.), London, 1894, 69–70.
(3) Garrison, F. H.: Notes on the History of Military Medicine. *The Military Surgeon*, Washington, D. C., 1921, 1, No. 1, 22.
(4) Withington: Op. cit., 117.
(5) Garrison, F. H.: An Introduction to the History of Medicine. W. B. Saunders & Co. Philadelphia., 1913, 120.
(6) Withington: Op. cit., 224.
(7) Heizman, C. L.: Military Sanitation in the Sixteenth, Seventeenth, and Eighteenth Centuries. *Journal of the Military Service Institution of the United States*, Governors Island, N. Y., 1893, xiv, No. 64, 711.
(8) Garrison, F. H.: An Introduction to the History of Medicine, 332.
(9) Circular No. 4, War Department, Surgeon General's Office, Washington, Dec. 5, 1870. A Report on Barracks and Hospitals.
(10) Wylie, W. G.: Hospitals: History of Their Origin. New York Academy of Medicine Transactions, 1874–1876, 264.
(11) Wylie: Op. cit., 266.
(12) Wylie: Op. cit., 272.
(13) Brown, H. E.: Medical Department of the United States Army, 1775–1873. Washington, D. C., Surgeon General's Office, 1873, 52–53.
(14) Brown: Op. cit., 89–90–91.
(15) Report: Hospitals of the British Army in Crimea and Scutari. Eyre and Spottiswoode, London, 1855.
(16) Wylie: Op. cit., 278.
(17) Report of the Proceedings of the Sanitary Commission Dispatched to the Seat of War in the East. Harrison & Sons, London, 1855–1856.
(18) Burdette, H. C.: Hospitals and Asylums of the World. J. and S. Churchill, London, Vol. IX, 34.
(19) Medical and Surgical History of the War of the Rebellion, Part III. Medical volume, Chap. XII.
(20) Annual Report of the Surgeon General, U. S. Army, 1898, 128–131.
(21) Munson, E. L.: Military Hygiene. Wm. Wood & Co., New York, 1901, 439–442.
(22) Hospitalization Program for the United States. On file, Record Room, S. G. O., Correspondence File, 632.1.
(23) Munson: Op. cit., 434–436.
(24) A. R. 1445, 1913.
(25) A. R. 1441–42, 1913.
(26) Annual Report of the Surgeon General, U. S. Army, 1917, 142.

SECTION I.

PROCUREMENT.

CHAPTER I.

EVOLUTION OF HOSPITAL PROCUREMENT METHODS.

PRE-WAR PROCUREMENT.

The Surgeon General personally authorized all hospital projects and approved all preliminary or sketch plans, [1] often as the result of conferences in which other officers of his staff joined. Three or four clerks, draftsmen, were employed in sketching preliminary plans for new hospital buildings. These preliminary plans, with supporting data, were furnished the Quartermaster General, to be used by him as a basis for the completed plans prepared in his office.[2] Frequently necessary changes were made in the preliminary plans by the Quartermaster General, in which event they were returned to the Surgeon General for his approval. Specifications were likewise prepared by collaborating with the Quartermaster General's Office. Complete prints and specifications were finally approved by the Surgeon General and returned to the Quartermaster General, together with a request for construction.[3]

Funds for the construction of hospitals were secured from Congress [4] as an appropriation specifically termed—

> Construction and repair of hospitals: For construction and repair of hospitals at military posts already established and occupied, including extra duty pay of enlisted men employed on the same, and including also all expenditures for construction and repairs at the Army and Navy Hospital at Hot Springs, Arkansas, and for construction and repair of general hospitals and expenses incident thereto, and for activities to meet the requirements of increased garrisons.

Difficulty had been experienced in securing the complete construction of Army hospitals with money thus appropriated. This was due to the fact that several other appropriations, in addition to that for construction and repair of hospitals, were required to install electric fixtures, sewerage, cooking ranges, and, in large hospitals, the additional construction of barracks, quarters, roads, walks, etc. Even though ample funds were provided for the erection of buildings, occupancy could not be effected unless funds existed in at least three other appropriations to cover expenditures for electric fixtures, sewers, etc.

The average yearly appropriation under "Construction and repair of hospitals," for the 10 years prior to the war, was $400,000, of which, as a rule, 55 per cent was used for repair and 45 per cent for new construction.[5]

Funds for the construction of hospital stewards' quarters were secured under separate, appropriate headings.[6]

WARTIME ORGANIZATION FOR HOSPITAL PROCUREMENT.

The preliminary study of the hospital problem, as applied to our Army after the declaration of war, was made the duty of an officer of the Medical Corps, especially detailed to the Office of the Surgeon General for that purpose because of his broad experience with the larger type of military hospitals.

Early in July, 1917, a hospital division was created in the Surgeon General's Office, under the officer mentioned, which was charged with the responsibility of producing hospital space in the United States for the cantonments of the National Army and encampments of the National Guard, and general and special hospitals for the care and treatment of sick and wounded from overseas, as well as those from numerous camps, requiring special or prolonged treatment.[7]

There were 32 mobilization camps each of which required a large hospital.[8] Inasmuch as the first divisions of the new National Army were scheduled for mobilization in the early fall of 1917, it was essential to proceed rapidly with the development of preparations for the establishment of hospitals at the various camps of these divisions. At the same time plans had to be formulated for the provision of hospitals for the sick and wounded from overseas. That these latter hospitals would be numerous became early apparent from the experiences of the British and French.

It was finally decided that provision would have to be made for 5 per cent casualties and 2 per cent sickness, the percentage referring to the total number of troops overseas and indicating the number estimated to require treatment and care on their return to the United States. This would make a total of beds equal to 7 per cent of the expeditionary troops. It was assumed that a turnover could be made, on the average, every six months, and a 3½ per cent basis was adopted as a required number of beds for returning sick and wounded.[9] As the United States had been divided into 16 draft districts, the policy was adopted of providing in each draft district the number of hospitals and beds to be proportionate to the number of men inducted from each district. For obtaining these hospital facilities various methods were used.

The Council of National Defense classified the hospitals of the United States as to size, convenience to railroad, equipment, facilities for expansion, and arrangements for handling special work. Tuberculosis sanitaria and dispensaries were inventoried and a survey was made as to hospitals for convalescents. Offers of private houses and other larger buildings, tendered to the Surgeon General for use as military hospitals, were classified and tabulated for the Surgeon General's use.[10]

After due consideration, it was decided that the use of civil hospitals for the care and treatment of troops was not feasible because of the uncertainty of the supply of beds, the impracticability of taking over entirely civil hospitals in sufficient number without creating hardship on the civil population, and the difficulty in operating a military and civil organization in the same institution. The Surgeon General concluded that a program must be developed for obtaining a sufficient number of hospitals absolutely under military control, and proceeded to develop that program.

At the beginning of the fiscal year 1917–18, the plans prepared for the hospitals for the National Army and the National Guard divisions were being turned over to the Quartermaster Department for execution. Due to the antiquated printing apparatus in the construction branch of the Surgeon General's Office, there was some delay incident to the printing of large numbers of plans requisite for erection purposes in the field, and it was necessary to run the printing machine 21 hours per day for weeks and demand overtime labor, on the part of the civilian employees concerned, with no increase of pay possible. Therefore a modern, motor-driven press and a motor-driven gas-heater drier were installed. The majority of the printing firms were well behind on work orders and in consequence could not be depended upon. In the preparation of these plans, medical officers, representing the various specialities, such as surgery, medicine, laboratory, were consulted, and, in so far as time, necessary construction, standardization, and funds permitted, plans were prepared to embody the essential features desired. These features were included with other usual hospital features and activities, and a general plan was evolved for the typical 1,000-bed hospital. A 500-bed hospital was planned by a similar process. In order to standardize equipment, materials, personnel, construction, and administrative requirements, it was thought best to accomplish this, and the 1,000-bed and the 500-bed hospital types were considered as more nearly approximating the majority of the proposed perfected features. The 500-bed hospital differed from the 1,000-bed hospital not only in number of wards, which were of the same type, but in the size of the administration building, receiving building, general mess hall, kitchen, and other service buildings.[11]

During the execution of this planning work, considerable expansion occurred in the section of the Office of the Surgeon General charged with it. At the beginning five civilian employees were engaged in the work, under the supervision of one officer, who had other activities as well, and the section functioned directly under the officer in charge of the Hospital Division. It was necessary at this period to increase the drafting force. This was rendered difficult because the Civil Service Commission was unable to supply draftsmen, and the law did not permit the Medical Department to employ draftsmen except at a very low wage. To overcome this impediment, in a measure, architects, versed in hospital design and construction, or in military procedure, were commissioned in the Sanitary Corps, for supervisory duties.[12] By considerable effort and after extended delays, the drafting and designing force was organized and the hospital plans were studied and revised as occasions demanded.

The difficulty incident to securing complete construction of Army hospitals from congressional appropriations, as they were made previous to the war, was overcome by adding the following phrase for incorporation into the enactment:

> * * * and for temporary hospitals in standing camps and cantonments. For the alteration of permanent buildings at posts, for use as hospitals, construction and repair of temporary hospital buildings at posts for use as hospitals, construction and repair of temporary hospital buildings at permanent posts, construction and repair of temporary general hospitals, rental or purchase of grounds and rental and alteration of buildings for use for hospital purposes in the District of Columbia and elsewhere, for use during the existing emergency, including necessary temporary quarters for hospital personnel, outbuildings, heating and laundry apparatus, plumbing, water and sewers, and electric work, cooking apparatus, and roads and walks for the same.[13]

In the latter part of the year 1917, the necessity for closer cooperation between the Surgeon General's Office and the Construction Division, War Department, became apparent to both bureaus, and as a result a hospital section was organized in the latter. At this time about 250 hospital construction projects were in the Construction Division, and the number was rapidly increasing. The creation of a hospital section in the Construction Division[14] proved to be an excellent innovation, most advantageous to all concerned, and eventually it grew to a considerable size.

Upon the organization of the Hospital Division of the Surgeon General's Office one of its sections was designated the procurement section.[15] Prior to that time the branch in charge of construction had not been concerned with the leasing or investigation of properties suitable for hospital purposes. Subsequently, however, all activities relating to the acquisition of places for hospital uses were initiated and followed up by the procurement section, necessitating the assignment of additional medical officers and architects to it from time to time. Its functions[16] were to determine requirements for hospital space; to secure adequate congressional appropriations; to locate and procure hospital space by lease; to make preliminary plans; to make request for new construction; to pass upon the requests for hospital space from War Department representatives in the field; to authorize allotments from the appropriations made by Congress for the construction and repair of hospitals and quarters of hospital stewards.

In June, 1918, the planning subsection was physically placed in the Construction Division of the War Department.[17] This was done to obtain better liaison with the engineering and building activities and to economize in time. An officer from the Office of the Surgeon General was assigned to duty as liaison officer and to follow up projects which had been initiated.[18]

After the necessity for hospital construction was determined in the Office of the Surgeon General, and the plans therefor completed in the Construction Division, in collaboration with the construction branch of the Surgeon General's Office, estimates for necessary funds, with a request that their expenditure be authorized, were made and sent to the War Industries Board,[19] through the Purchase, Storage, and Traffic Division, General Staff, for clearance.[20] After clearance by the War Industries Board, they were returned through the Purchase, Storage, and Traffic Division to the Operations Division, General Staff, for the approval of the Secretary of War,[20] after which they were returned to the Construction Division, whence they were sent to the field for execution.

PROCUREMENT OF EXISTING BUILDINGS FOR HOSPITAL PURPOSES.

The spirit of patriotic service which swept the country prompted many persons to offer their properties to the War Department for hospital purposes. These offers included buildings of every conceivable kind, such as lofts, department stores, sanatoria, private establishments, hospitals, and private homes.[21] Upon investigation, it was found that many of these could be utilized with advantage and could be obtained and converted into hospitals much more expeditiously than barrack hospitals could be constructed, and at less cost. Therefore, dependence was placed in the greatest degree upon these sources of supply, though many of the buildings offered required extensive remodeling and additional construction.

When it was desired to lease a building, the Surgeon General requested the Quartermaster General to lease a specific property. Authorization was obtained from the Secretary of War, after which the approved lease was transmitted, by the Quartermaster General, to a local quartermaster, for accomplishment.[22] In August, 1918, this time-consuming routine was changed by the organization of a real-estate unit in the General Staff.[20] From that time on requests emanating from the Office of the Surgeon General, for the leasing of property, were forwarded directly to the General Staff, which, within its divisions, conducted investigations, authorized expenditures, and executed leases.

When it was desired to establish a hospital in a building which required leasing and then had to be altered, after the lease had been accomplished, the routine was proceeded with as though new construction were being provided.

As a rule, from two to six months were consumed in the establishment of large hospitals, representing the time between that when a request for a lease was forwarded from the Surgeon General's Office, and the completion of any alteration work and the opening of the hospital for the reception of the sick. This necessitated the initiation of projects at a date from two to six months prior to anticipated needs. It was highly desirable that the method be simplified to save time, for during 1918 there was a progressively rapid increase in troop movement overseas.

The increase in the active operations at the front portended an influx of sick and wounded into the hospitals of the United States; and to hasten the acquisition of a greater amount of general hospital space, the following plan was instituted:[21] Two groups of officers were formed, each consisting of a representative of the real-estate section of the Purchase, Storage, and Traffic Division of the General Staff, the Construction Division, and the Office of the Surgeon General. The duties of these groups were to investigate properties in the large cities; one for the eastern section of the country and one for the western. Upon the recommendation of the Surgeon General, the Secretary of War, on September 21, 1918, authorized the groups to close leases where rentals would not exceed $250 per bed per annum; and to authorize necessary funds for alteration purposes, provided each project would be cleared by the regional adviser of the War Industries Board and, further, that the three members of the group of officers were unanimous in their opinions.[21] When the described condition could not be effected the project required separate action in the War Department.

Under the changed routine, hospital procurement progressed rapidly. Upon the execution of a lease and after the expenditure of funds for alterations had been authorized, the War Department was at once notified.

To take up the work on projects where these groups stopped, other groups, consisting of an officer versed in Medical Department requirements, from the procurement section of the Surgeon General's Office, together with assistants from the hospital section of the Construction Division, War Department, went to the site and, collaborating with the local quartermaster, completed the plans.[23] Definite knowledge was at hand as to when the conversion might be expected to be completed which permitted the advanced assemblage of personnel for the organization of the hospital and utilization of the hospital for patients at a much earlier date. It was found that work progressed smoothly and rapidly; uncertainty was largely eliminated; and arrangements, covering many details, could be completed locally without undue loss of time.

REFERENCES.

(1) A. R. 1465, 1913.
(2) A. R. 1000, 1913.
(3) A. R. 1468, 1913.
(4) Bull. No. 30, W. D., May 22, 1917.
(5) Table compiled from Annual Reports, Quartermaster General, 1907 to 1916. On file, Record Room, Surgeon General's Office, Correspondence File 632.1 (General).
(6) Bull. No. 30, W. D., May 22, 1917.
(7) Annual Report of the Surgeon General, U. S. Army, 1918, 304.
(8) Ibid., 305.
(9) Ibid., 306.
(10) Report of the Chairman of the Committee on Medicine and Sanitation of the Advisory Commission of the Council of National Defense, Washington, April 1, 1918, 23.
(11) Annual Report of the Surgeon General, U. S. Army, 1918, 317.
(12) Ibid., 318.
(13) Bull. No. 43, W. D., July 22, 1918.
(14) Annual Report of the Surgeon General, U. S. Army, 1918, 319.
(15) Ibid., 308.
(16) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1141.
(17) Annual Report of the Surgeon General, U. S. Army, 1918, 319; and 1919, Vol. II, 1142.
(18) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1142.
(19) Second Annual Report of the Council of National Defense, for the Fiscal Year Ended June 30, 1918, 117.
(20) G. O. No. 80, W. D., Aug. 26, 1918.
(21) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1144.
(22) A. R. 1046, 1913.
(23) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1145.

CHAPTER II.

GENERAL FACTORS UNDERLYING THE HOSPITALIZATION SCHEME.

HOSPITAL PROVISION AT EXISTING ARMY POSTS AND TRAINING CAMPS.

During the first few months after the war had been declared, Regular Army troops were being mobilized and trained at permanent military posts in numbers far in excess of those for which original hospital accommodations had been provided. At many posts, camps had been instituted in which there were being trained men who were afterwards to become officers of the new Army. The provision of additional hospital space for the sick of these troops was effected by the construction of temporary wards, mess halls, barracks, nurses' quarters, or combinations of these or other hospital buildings adjoining the existing post hospitals at the various places. Plans were prepared and the construction of the buildings requested mostly in the month of May, 1917.[1]

Rigid physical examination of the entrants to these camps excluded practically all possible chronic ailments, and hospital provisions were made for only prospective acute illnesses.

HOSPITAL PROCUREMENT AT CANTONMENTS AND CAMPS.

Following the procurement of hospital space at the early training camps, the next necessity in point of time was the provision of hospitals for the sick of the drafted troops and the National Guard at the 32 cantonments and camps. As in the training camps, the character of the sick anticipated was the acute, and it was expected that an abnormal number of beds would be needed for contagious diseases and for cases under observation.

In the completed plans (proposed along lines radically different from the usual Army type) it was supposed that ample provision had been made in these temporarily constructed buildings for laboratories, infectious diseases, wards for the insane, eye, ear, nose and throat patients, general medical and surgical patients, staff and nurses' quarters, and administration. That the plans were faulty in minor respects was due to the necessity for haste and will not seem remarkable when one considers the length of time it requires to develop plans for much smaller hospitals in civil life.

PROVISION OF HOSPITALS AT PORTS OF EMBARKATION.

At these ports large camps were established for the temporary quartering of troops awaiting transportation abroad.[2] Here, the most rigid physical examinations were given troops and the provision of beds in hospitals had to be not only of sufficient number for the sick, but for communicable disease contacts and for soldiers under observation as well.

As in large mobilization camps, the location of these embarkation camps determined that of the hospital. There was little or no information to serve as a guide to the amount of hospital space required in these camps. Moreover such information would have been of slight value as the size of the camps was frequently changed—usually increased—and hospital construction was forced to keep apace. As an instance to show the impossibility of foretelling the ultimate requirements of an embarkation hospital, the camp hospital, Newport News, Va., was originally built with a capacity of 250 beds.[3] Before the war had closed the capacity of this hospital had been increased to over 2,000 beds and the emergency capacity was even greater.[4] It should be stated, however, that a portion of this space was used for debarking sick.

PROVISION OF DEBARKATION HOSPITALS.

The general scheme for caring for the sick and wounded of the United States Army abroad provided for the return to the United States of those requiring prolonged hospital treatment. This necessitated the provision, at the ports, of hospitals for their reception.[2] The character of sick anticipated was the nonacute.

The location of the hospitals for the reception of these returned sick and wounded was fixed, in general, by the location of the port. Specifically, the actual location was fixed by the larger, local considerations of availability and suitability of space, local transportation, connection with railroad systems of the United States, and connection with the actual point of debarkation. No one site was ideal in all of the above considerations. The good and bad features of available sites or properties had to be considered and the one possessing the best combination selected. The absence of outside recreation space and the presence of extraneous noises and disturbances were disregarded. While these things were undesirable, the contemplated stay of sick in these hospitals obviated the necessity of going to an undue extent in avoiding them. Prompt reception, on short notice, and the possibility of rapid evacuation were features of first and most important consideration.

The requisite space in these hospitals was the subject of considerable thought, being variously estimated. All estimates were subject to adverse criticism as they contained uncertain factors in their very foundations. According to the view of one observer an estimate could be criticized for being too high; from another viewpoint another observer would feel that the estimate was too conservative. The number of expeditionary troops was known and the monthly increments to that number were known. The battle casualties of past wars were considered and applied as far as it was possible to do so to the existing one. The incidence of injury and disease from normal causes could be foretold with a reasonable degree of accuracy. The plan to keep in France all sick and injured, returnable to duty within a period of six months, was known. It was not known until quite late, however, what the rate of return of sick and wounded from France would be.

Based upon known factors estimates were made and revised as necessary, showing the number of sick and wounded that might be expected in the United States. These estimates were used in the Office of the Surgeon General as a basis for planning the capacity of the debarkation hospitals for both ports.[5] In applying them it was assumed that the average stay of the sick, returned from overseas, would not be for a longer period than 10 days in the port hospitals.

PROVISION OF GENERAL HOSPITALS.

Many unusual cases of illness or injury, for which facilities and personnel could not be provided in camp or post hospitals, necessitated the provision of general hospital care. These hospitals had to be made general in the sense in which the term is used in civil communities, equipped for the care and treatment of all varieties of injury and disease.

The larger purpose of the general hospitals was, however, for the care and treatment of patients from abroad.[2] The number of patients from the expeditionary forces precluded the possibility of retaining them at debarkation ports longer than a reasonably sufficient time for their clearance from the debarkation hospitals, and accommodations for them had to be provided elsewhere throughout the country.

The question of the number of returned patients to provide for was problematical. Some of the general hospitals were solely for the tuberculous, others for mental cases, yet both these kinds of hospitals were potentially general hospitals, in the accepted sense, and were operated and controlled as such. Any necessary surgical or medical requirement could be met at any of the general hospitals with one exception—General Hospital No. 7, Baltimore.

To secure this general hospital space by the use of military posts seemed appropriate, and, to a certain extent, this was so directed by the War Department.[6] The lease of civilian properties, hospitals, hotels, colleges, loft buildings, and the like was contemplated. This means was used to a great extent.[6]

The provision of general hospitals by new construction was the most expensive, but could not be entirely avoided, particularly where general hospitals for the tuberculous were concerned. It was always difficult to lease desirable property for use in the treatment of tuberculous patients. The medical profession recognized certain areas as being more efficacious than others in the treatment of tuberculosis and to find suitable properties in these recognized localities for leasing purposes was extremely difficult. In accordance with prevalent opinion, the most popular sections for the treatment of the tuberculous were the mountains of New York and of North Carolina and the high and dry sections of central Colorado, New Mexico, and Arizona. It was in these localities that practically all of our general hospitals for the treatment of tuberculosis were placed.[7]

Population centers were chosen for the location of general hospitals, other than those especially planned for the tuberculous and neuropsychiatric, the majority of them being naturally located in the East, a few scattered throughout the West in military posts. Large civilian properties, convertible into 1,000-bed hospitals, did not exist in the West.

THE INFLUENCE OF THE PERCENTAGE OF AMBULATORY SICK ON HOSPITAL PLANS.

The expected percentage of ambulatory sick had a large influence in the planning of hospitals. Mess halls of the hospitals of the camps, as originally constructed, provided a seating capacity of 60 per cent. Later, it was found that this estimate had been too conservative and that the number habitually able to go to the mess halls varied from 60 to 75 per cent.

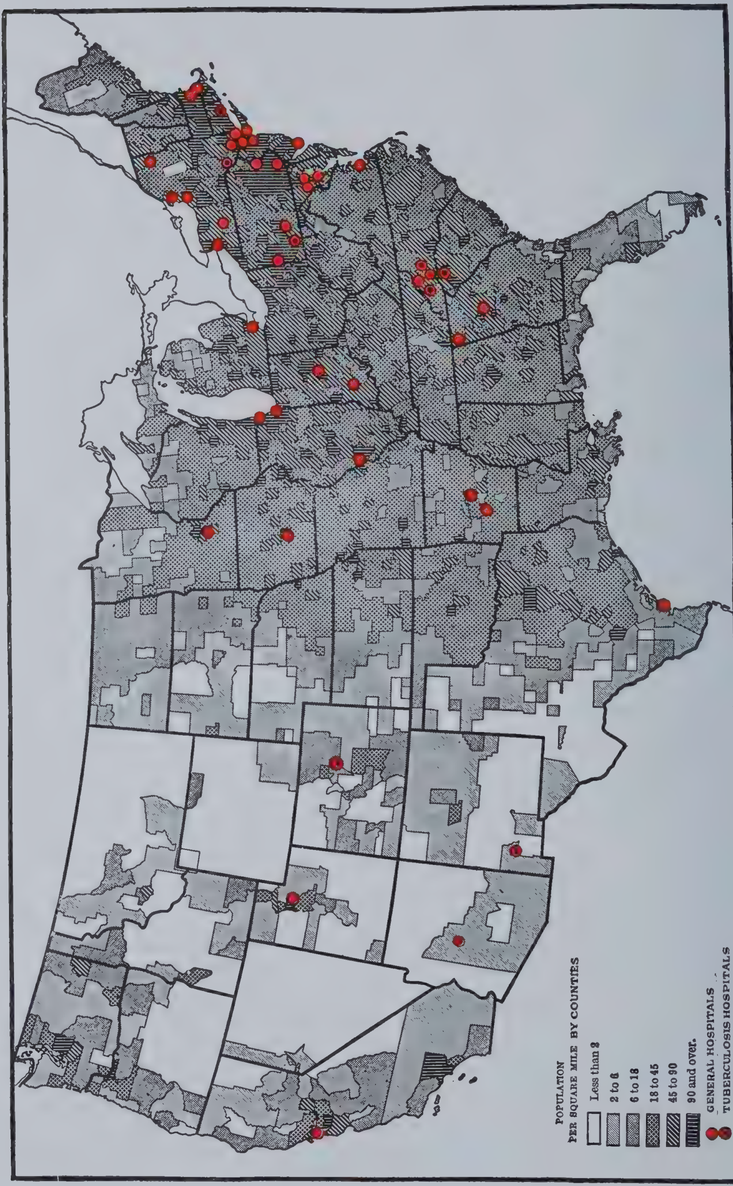

FIG. 9.—General hospitals superimposed upon Bureau of Census population map of 1910.

The use of the two-storied ward barrack—a compromise between a ward and a barrack—early in 1918, was an example of how both exterior and interior arrangements were influenced by the quantity of ambulatory sick.

In preparing the hospitals designed for the overseas sick and wounded, after their return to the United States, arrangements were made for 80 per cent ambulatory patients. Acute diseases were not anticipated, but a high percentage of ambulatory injured was expected.[8] The number of patients able to walk proved to be larger than originally estimated, varying from 90 to 95 per cent.[9] This discrepancy was attributed to the fact that, after the armistice, there was no military necessity for the retention abroad of the moderately sick and slightly wounded until cured, and these were returned to the United States from hospitals in France as patients whose convalescence, in many instances, had been completed.[10]

HOSPITAL PROVISIONS FOR THE NEUROPSYCHIATRIC AND THE COMMUNICABLE DISEASES.

During peace times, the incidence of mental diseases among troops had been about three per thousand per annum.[11] This figure was used, in a measure, as a basis for the provision of beds for mental cases in all of the hospitals. For each 1,000-bed hospital in the camps, two special wards, of 20 beds capacity each, were provided for the observation and treatment of mental cases. In the 500-bed hospitals only one ward, of 20 beds, was constructed.[12]

In the groups of general hospitals, special hospitals were provided for the neuropsychiatric. Three were established for the insane and one for the psychoneurotic.[13]

As a rule, 15 per cent of the space in hospitals, for the treatment of mental diseases, was especially prepared for the adequate care of the violently insane.[14]

Approximately 8 per cent of the total hospital space in camps was designed for the isolation of cases of communicable diseases.[15] This space was readily augmented by the use of cubicles in the ordinary wards.

REFERENCES.

(1) Annual Report of the Surgeon General, U. S. Army, 1917, 320.

(2) Annual Report of the Surgeon General, U. S. Army, 1918, 305.

(3) Letter from the surgeon, Port of Embarkation, Newport News, Va., to commanding general, Port of Embarkation, Newport News, Va., dated Dec. 10, 1917. Subject: Embarkation hospital. On file, Record Room, Adjutant General's Office, Correspondence File, 632–1 (Newport News, Va.) N.

(4) Letter from commanding general, Port of Embarkation, Newport News, Va., to chief, Embarkation Service, Washington, D. C.; dated July 8, 1918. Subject: Provision for housing enlisted personnel, Medical Department. On file, Record Room, S. G. O., Correspondence File, 632 (Newport News, Va.) N.

(5) Memo. from the Surgeon General to the Chief of Staff, dated Nov. 2, 1918. Subject: Debarkation hospitals. On file, Record Room, S. G. O., Correspondence File, 721.6 (Sick and Wounded Overseas).

(6) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1148.

(7) Ibid., 1167.

(8) Third indorsement from the Surgeon General of the Army to Bureau of Medicine and Surgery of the Navy, dated Dec. 7, 1917. Subject: Transportation of sick and wounded from overseas. On file, Record Room, S. G. O., Correspondence File, 721.6 (Sick and Wounded Overseas).

(9) Ambulatory sick, percentage of returned from overseas: Based on "Weekly reports of sick and wounded from overseas." On file, Record Room, S. G. O., Correspondence File, 721.6 (Sick and Wounded Overseas).
(10) Cablegram No. 2176 from Harris to Pershing, dated Nov. 12, 1918, subparagraph A. On file, Record Room, S. G. O., Cablegram File.
(11) Annual Report of the Surgeon General, U. S. Army, 1917, 79.
(12) Semiannual Report, Division of Neurology and Psychiatry, from Maj. Pearce Bailey to the Surgeon General, dated Jan. 2, 1918. On file, Record Room, S. G. O., Weekly Report File (Neurology and Psychiatry).
(13) Memo. for the Surgeon General from Col. C. R. Darnall, M. C., dated Nov. 13, 1918. Subject: Care of insane, epileptics, and war neuroses. On file, Record Room, S. G. O., Correspondence File 701 (Care of Insane).
(14) Memo. from Maj. Pearce Bailey to Hospital Division, Surgeon General's Office, dated June 13, 1918. Subject: Alterations in psychiatric ward. On file, Record Room, S. G. O., Correspondence File, .024–10 (Neurology and Psychiatry).
(15) Letter from the Surgeon General to the Quartermaster General, dated May 26, 1917. Subject: Estimates for base hospitals for cantonments. On file, Record Room, S. G. O., Correspondence File, 176796–R. (Old Files).

CHAPTER III.

CLASSIFICATION OF HOSPITALS CONSTRUCTED.

The following group of tables divides the new construction of war hospitals into six main classes: Additions to post hospitals which were enlarged but which never became general hospitals; hospital buildings constructed at the National Army contonments; hospital buildings constructed at the National Guard camps; hospital buildings of the cantonment type constructed at places other than at National Army and National Guard camps; buildings constructed at the general hospitals for the treatment of tuberculosis; and semipermanent hospital buildings.

TABLE 1.—*Schedule showing new construc-*

Number of beds.	Number of buildings.	Post Hospital at— Fort Adams.	Fort Banks.	Fort Barrancas.	Fort Caswell.	Fort Casey.	Fort Clark.	Columbus, N. Mex.	Fort Constitution.	Fort Crockett.	Fort Dade.	Camp Douglas.	Fort DuPont.	Fort Ethan Allen.	Fort Flagler.	Fort Hamilton.	Fort Hancock.	Fort Howard.	Jackson Barracks.	Fort Jay.	Jefferson Barracks.	Fort MacArthur.	Fort McDowell.	Fort Michie.	Fort Monroe.
24	1																				1				
84	2	1																							
37	1																								
11	1				1																				
28	2																								1
6	1																								
52	2																				2				
14	1																								
......	1																				1				
......	1																								
......	3																				1				1
......	2															1				1					
......	4				1							2													
......	1																				1				
......	1																				1				
1,870	55			1	1			3		2				1		2	1			4	6	1	5		2
300	5											1				1						2			
48	3										1								1					1	
48	2																	1							
288	9					1		3							1										
32	1																		1						
504	7																				4				
252	9	1							1										1						
112	4				1		1					1	1												
27	1		1																						
50	1																								
364	7																				6				1
204	3				1																				
20	1																								
24	1																		1						
200	1																								
......	1																								
......	2																				2				
......	1																								
19	1																				1				
4,618	139																								

BED CAPACITY.

Post Hospital at—	Patients.	Officers.	Nurses.	Detachment.
Fort Adams	28		42	
Fort Banks	27			
Fort Barrancas	34			
Fort Caswell	62		11	68
Fort Casey	32			
Fort Clark	28			
Columbus, N. Mex	198			
Fort Constitution	28			
Fort Crockett	68			
Fort Dade	16			
Camp Douglas	88			
Fort DuPont	28			
Fort Ethan Allen	34			
Fort Flagler	32			
Fort Hamilton	128			
Fort Hancock	34			
Fort Howard	24			
Jackson Barracks	76			24
Fort Jay	136			
Jefferson Barracks	511	24	52	312
Fort MacArthur	154			

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[a] Data compiled from plans for temporary construction at post hospitals. Plans on file, Hospital Division, Surgeon General's Office.

tion (temporary) erected at post hospitals.[a]

Post Hospital at—																Letter prefix.	Description.	Capacity.
Fort Moultrie.	Fort Myer.	Fort Niagara.	Fort Rosecrans.	Fort Schuyler.	Fort Screven.	Fort Slocum.	Fort Stevens.	Fort St. Philip.	Fort Terry.	Fort Thomas.	Fort Totten.	Vancouver Barracks.	Watertown Arsenal.	Fort Worden.	Fort H. G. Wright.			
																D-8	Officers' quarters, 1-story	24
	1															E	Nurses' quarters, 1-story	42
												1				E-4	Nurses' quarters and mess	37
																E-6	Female servants' quarters	11
							1									E-7	Nurses' quarters and mess	14
														1		E-8	Nurses' infirmary	6
																E-9	Nurses' quarters	26
			1													E-12	Nurses' quarters and mess	14
																H-1	Garage	
														1		H-3	do	
							1									I-2	Detachment mess	
																I-3	Detachment mess and kitchen	
														1		I-4	Detachment mess	
																I-7	General mess and kitchen	
																I-9	Detachment mess	
1	4	3	2				4			4		8				K-1	1-story ward	34
						1										K-8	2-story ward barracks	60
																K-17	1-story ward	16
				1												K-18	do	24
													1	3		K-20	do	32
																K-23	Prison ward	32
		3														L-1	Double ward and lavatory, 1-story	72
					1		1	1				3				M	Isolation ward, 1-story	28
																M-1	Isolation	28
																M-2	Isolation ward	27
							1									N	Detachment barracks, 1-story	50
																N-2	Detachment barracks	52
									1						1	N-3	do	68
											1					N-4	do	20
																N-6	do	24
			1													N-9	Detachment barracks, 1-story	200
												1				O	Storehouse	
																O-3	Patients' effects building	
												1				P	Mortuary	
																R-3	Psychiatric ward	19

BED CAPACITY.

Post Hospital at—	Patients.	Officers.	Nurses.	Detachment.
Fort McDowell	170			
Fort Michie	16			
Fort Monroe	68		14	52
Fort Moultrie	34			
Fort Myer	136		42	
Fort Niagara	318			
Fort Rosecrans	68		14	200
Fort Schuyler	24			
Fort Screven	28			
Fort Slocum	60			
Fort Stevens	164			
Fort St. Philip	28			
Fort Terry				
Fort Thomas	136			
Fort Totten				
Vancouver Barracks	356			
Watertown Arsenal	32			
Fort Worden	96			
Fort H. G. Wright				
	3,500	24	175	656

TABLE 2.—*Schedule of hospital buildings erected at National*

Number of beds.	Number of buildings.	Base Hospital at— Camp Custer.	Camp Devens.	Camp Dix.	Camp Dodge.	Camp Grant.	Camp Gordon.	Camp Jackson.	Camp Lee.	Camp Lewis.	Camp Meade.	Camp Pike.	Camp Sherman.
	13	1	1	1		1		1	1	1	1	1	1
	2				1		1						
495	15	1	1	1	1	1	1	1	1	1	1	1	1
330	15	1	1	1	1	1	1	1	1	1	1	1	1
60	15	1	1	1	1	1	1	1	1	1	1	1	1
630	15	1	1	1	1	1	1	1	1	1	1	1	1
370	10	1	1	1	1	1	1	1		1	1	1	
60	10	1	1	1	1	1	1	1		1	1	1	
1,456	56	4		4	4	4	4	4	4	4	4	4	4
42	3				1						1		1
255	5					2			2				1
104	4	1				1			1		1		
	15	1	1	1	1	1	1	1	1	1	1	1	1
	13	1	1	1	1	1	1	1	1	1		1	
	15	1	1	1	1	1	1	1	1	1	1	1	1
	3	1									1		1
	15	1	1	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	1	1	1	1	1	1
7,480	220	16	16	16	8	16	4	16	16	16	16	16	16
11,392	178	10	12	12	12	12	12	12	12	12	12	12	12
420	7			4							3		
576	18	9							2		7		
1,220	10					10							
9,360	130	8	8	8	12	8	14	8	8	8	8	8	8
1,204	43	3	3	3	2	3	2	3	3	3	3	3	3
5,100	102	7	7	7	7	7	7	7	5	6	7	7	7
600	3		1			2							
	60	4	4	4	3	4	4	4	4	4	4	4	4
	1										1		
	15	1	1	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	1	1	1	1	1	1
	15	1	1	1	1	1	1	1	1	1	1	1	1
323	17	1	2	1	1	1	1	1	1	1	1	1	1
41,477	1,148												

RATED CAPACITY.

Base Hospital at—	Patients.	Officers.	Nurses.	Detachment.
Camp Custer	2,184	26	215	350
Camp Devens	2,043	26	85	550
Camp Dix	2,264	26	189	350
Camp Dodge	2,012	26	203	350
Camp Grant	3,244	26	317	750
Camp Gordon	2,020	26	189	350
Camp Jackson	2,024	26	189	350
Camp Lee	2,088	26	274	250
Camp Lewis	2,024	26	189	300

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[a] Data compiled from plans for base hospitals for National Army camps. Plans on file, Hospital Division, Surgeon General's Office.

Army camps (base hospitals). All temporary construction.[a]

Base Hospital at—			Letter prefix.	Description.	Normal capacity.			
Camp Taylor.	Camp Travis.	Camp Upton.			Patients.	Officers.	Nurses.	Detachment.
1	1	1	B	Administration building				
			B-1	do				
1	1	1	C	1-story officers' ward	33			
1	1	1	D	1-story officers' quarters		22		
1	1	1	D-4	Commissioned officers' quarters		4		
1	1	1	E	Nurses' quarters, 1-story			42	
			E-4	do			37	
			E-8	Nurses' infirmary			6	
4	4	4	E-9	Nurses' quarters, 1-story			26	
			E-12	Nurses' quarters and mess			14	
			E-20	Nurses' quarters, 2-story			51	
			E-22	Nurses' quarters and mess			26	
1	1	1	F	Laboratory, head surgery and X ray				
1	1	1	F-1	Head surgery				
1	1	1	G	Operating building				
			G-4	Operating addition				
1	1	1	H	Garage				
1	1	1	H	Shop				
1	1	1	H	Exchange				
1	1	1	I	Patients' mess				
1	1	1	I-2(I-8)	Detachment mess				
1	1	1	J	Receiving building				
16	16	16	K-1	1-story ward	34			
12	12	12	K-5	2-story ward barracks	64			
			K-8	do	60			
			K-20	1-story ward	32			
			K-34	2-story wing ward	122			
8	8	8	L-1	Double ward and lavatory, 1-story	72			
3	3	3	M	Isolation ward, 1-story	28			
7	7	7	N	Detachment barracks, 1-story				50
			N-9	do				200
4	4	5	O	Storehouse				
			O-8	do				
1	1	1	P	Chapel				
1	1	1	P	Guardhouse				
1	1	1	P	Mortuary				
1	1	1	Q-5	Laundry				
1	1	2	R-2	Psychiatric ward	19			

RATED CAPACITY.

Base Hospital at—	Patients.	Officers.	Nurses.	Detachment.
Camp Meade	2,428	26	229	350
Camp Pike	2,024	26	189	350
Camp Sherman	2,024	26	211	350
Camp Taylor	2,024	26	146	350
Camp Travis	2,024	26	146	350
Camp Upton	2,043	26	146	350
	32,470	390	2,917	5,700

TABLE 3.—*Schedule of hospital buildings erected at the National*

Number of beds.	Number of buildings.	Base Hospital at— Camp Beauregard.	Camp Bowie.	Camp Cody.	Camp Doniphan.	Camp Fremont.	Camp Greene.	Camp Hancock.	Camp Kearny.	Camp Logan.	Camp MacArthur.	Camp McClellan.	Camp Sevier.
	16	1	1	1	1	1	1	1	1	1	1	1	1
528	16	1	1	1	1	1	1	1	1	1	1	1	1
352	16	1	1	1	1	1	1	1	1	1	1	1	1
64	16	1	1	1	1	1	1	1	1	1	1	1	1
672	16	1	1	1	1	1	1	1	1	1	1	1	1
555	15	1	1	1	1		1	1	1	1	1	1	1
96	16	1	1	1	1	1	1	1	1	1	1	1	1
910	35	4	3	2		2	2	3	2	1	2	3	2
28	2							1					1
26	1							1					
	16	1	1	1	1	1	1	1	1	1	1	1	1
	2									1	1		
	12	1	1	1	1		1	1	1			1	1
	16	1	1	1	1	1	1	1	1	1	1	1	1
	4	1						1					1
	16	1	1	1	1	1	1	1	1	1	1	1	1
	16	1	1	1	1	1	1	1	1	1	1	1	1
	16	1	1	1	1	1	1	1	1	1	1	1	1
	16	1	1	1	1	1	1	1	1	1	1	1	1
	16	1	1	1	1	1	1	1	1	1	1	1	1
	16	1	1	1	1	1	1	1	1	1	1	1	1
6,324	186	8	8	4	10	8	16	12	8	8	16	32	8
7,552	118	8	6	6	6	6	6	9	9	6	3	8	9
2,196	18							14					4
6,336	88	4	8	8	6	4	8	6	4	4	8		4
1,148	41	3	3	2	3	3	3	3	3	1	3	3	2
3,100	62	3	5	2	5	3	5	5	5	2	5	5	2
1,200	6							3					3
	64	4	4	4	4	3	5	5	3	3	5	4	4
	2							1					1
	16	1	1	1	1	1	1	1	1	1	1	1	1
	16	1	1	1	1	1	1	1	1	1	1	1	1
	16	1	1	1	1	1	1	1	1	1	1	1	1
	16	1	1	1	1	1	1	1	1	1	1	1	1
304	16	1	1	1	1	1	1	1	1	1	1	1	1
31,391	960												

RATED CAPACITY.

Base Hospital at—	Patients.	Officers.	Nurses.	Detachment.
Camp Beauregard	1,208	26	189	150
Camp Bowie	1,368	26	163	250
Camp Cody	1,204	26	137	100
Camp Doniphan	1,292	26	85	250
Camp Fremont	1,080	26	100	150
Camp Greene	1,640	26	137	250
Camp Hancock	3,260	26	203	850
Camp Kearny	1,272	26	137	250
Camp Logan	1,024	26	111	100

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[a] Data compiled from plans for temporary construction at National Guard camps. Plans on file Hospital Division, Surgeon General's Office.

Guard camps (base hospitals). All temporary construction.[a]

Base Hospital at—				Letter prefix.	Description.	Normal capacity.			
Camp Shelby.	Camp Sheridan.	Camp Wadsworth.	Camp Wheeler.			Patients.	Officers.	Nurses.	Detachment.
1	1	1	1	B-1	Administration building	....	....	....	....
1	1	1	1	C	1-story officers' ward	33	....	....	....
1	1	1	1	D	1-story officers' quarters	....	22	....	....
1	1	1	1	D-4	Commissioned officers' quarters	....	4	....	....
1	1	1	1	E	Nurses' quarters, 1-story	....	....	42	....
1	1	1	1	E-4	.....do	....	....	37	....
1	1	1	1	E-8	Nurses' infirmary	....	....	6	....
2	2	4	1	E-9	Nurses' quarters, 1-story	....	....	26	....
....	....	....	....	E-20	Nurses' quarters, 2-story	....	....	14	....
....	....	....	....	E-22	Nurses' quarters and mess	....	....	26	....
1	1	1	1	F	Laboratory, head surgery and X ray	....	....	....	....
....	....	....	....	F-1	Head surgery	....	....	....	....
1	....	1	1	F-6	.....do	....	....	....	....
1	1	1	1	G	Operating building	....	....	....	....
1	....	....	....	G-4	Operating addition	....	....	....	....
1	1	1	1	H	Garage	....	....	....	....
1	1	1	1	H	Shop	....	....	....	....
1	1	1	1	H	Exchange	....	....	....	....
1	1	1	1	I	Patients' mess	....	....	....	....
1	1	1	1	I-2 (1-8)	Detachment mess	....	....	....	....
1	1	1	1	J	Receiving building	....	....	....	....
12	12	16	8	K-3	1-story ward	34	....	....	....
11	6	11	8	K-5	2-story ward barracks	64	....	....	....
....	....	....	....	K-34	2-story wing ward	122	....	....	....
6	6	8	4	L-2	Double ward and lavatory, 1-story	72	....	....	....
2	3	3	1	M	Isolation ward, 1-story	28	....	....	....
3	5	5	2	N	Detachment barracks, 1-story	....	....	....	50
....	....	....	....	N-9	.....do	....	....	....	200
4	4	5	3	O	Storehouse	....	....	....	....
....	....	....	....	O-8	.....do	....	....	....	....
1	1	1	1	P	Chapel	....	....	....	....
1	1	1	1	P	Guardhouse	....	....	....	....
1	1	1	1	P	Mortuary	....	....	....	....
1	1	1	1	Q-5	Laundry	....	....	....	....
1	1	1	1	R-2	Psychiatric ward	19	....	....	....

RATED CAPACITY.

Base Hospital at—	Patients.	Officers.	Nurses.	Detachment.
Camp MacArthur	1,448	26	137	250
Camp McClellan	1,736	26	163	250
Camp Sevier	1,732	26	151	700
Camp Shelby	1,652	26	137	150
Camp Sheridan	1,360	26	137	250
Camp Wadsworth	1,960	26	189	250
Camp Wheeler	1,152	26	11	100
	24,388	416	2,287	4,300

TABLE 4.—*Schedule of new hospital construction of the temporary type*

Number of beds.	Number of buildings.	Hospital.																					
		General Hospital No. 3.	Edgewood Arsenal.	Camp Hospital, Camp Eustis.	General Hospital No. 41.	General Hospital No. 25.	Camp Hospital, Camp A. A. Humphries.	Camp Hospital, Camp Jos. E. Johnston.	General Hospital No. 9.	Letterman General Hospital.	General Hospital No. 2.	General Hospital No. 6.	Base Hospital, Camp Merritt.	Norfolk Quartermaster Terminal.	General Hospital No. 14.	General Hospital No. 5.	General Hospital No. 24.	General Hospital, Camp Perry.	Raritan River, N. J.	Base Hospital, Fort Riley.	General Hospital No. 7.	Post Hospital, Fort Logan H. Roots.	Base Hospital, Fort Sam Houston.
	3	1			1	1																	
	4						1	1					1										
	1			1																			
	1																	1					
	3						1	1															
	2		1																				
330	9	1		1	2		1	1					1			1			1				
12	1		1																				
110	5												2							1			
68	2							1					1										
24	6	1		1	2		1	1															
40	1				1																		
21	1						1																
162	3	1						1			1												
96	4			1			1																
51	1	1																					
24	1		1																				
50	1										1												
378	9							1		1	1	1	1			1							1
185	5					1	1	1				1								1			
304	4	1			1										1								1
14	1																						
60	10			1	1		1	1			1	1	1						1				1
468	18			3	2		4				4		4						1				
72	2																						
40	1																						
102	2																2						
26	1		1																				
100	2										2												
	8			1			1	1				1	1			1				1			
	2											1							1				
	2	1			1																		
	1				1																		
	2			1			1																
	1													1									
	2											1											
	1																						
	2		1																				
	1																						
	7			1	1		1	1				1	1										
	1						1																
	1		1																				
	8	1			1	1		1			1		1										
	5	1			1			1					1										
	5	1			1			1					1										
	2			1			1																
	1			1																			
	2			1			1																
	1										1												
	1																						
	1	1																					
	1		1																				
	4	1				1					1				1								
	3							1					1										
	7	1					1	1					1			1				1			
	2				1									1									
	1				1																		
	4				1															3			
	3						1						1		1								
	2			1															1				
	1			1																			
	6	1		1							1			1					1				
	3													1					1				1
	1			1																			
	2																						
	1																						
	1					1																	
	1		1																				
	1		1																				
	10	2					1	1			1	1	1							1			1
	2													1					1				
	1				1																		
	1			1																			
	1																						

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[a] Data compiled from plans for temporary construction of hospitals. Plans on file, Hospital Division, Surgeon General's Office.

done at points other than the National Army and National Guard camps.[a]

Hospitals.				Letter prefix.	Description.	Capacity.			
Base Hospital, Fort Sill.	Base Hospital, Camp Stuart.	Walter Reed General Hospital.	General Hospital No. 1.			Patients.	Officers.	Nurses.	Detachment.
				B	Administration				
	1			B-1	do				
				B-4	do				
				B-6	do				
	1			B-7	Administration additions				
		1		B-101	2-story, administration and receiving				
				C	Officers' ward, mess, and kitchen	33			
				C-102	do	12			
	1	1		D	Officers' quarters		22		
				D-3	Officers' quarters, mess, and kitchen		34		
				D-4	Commissioned officers' quarters		4		
				D-5	2-story officers' quarters		40		
				D-6	Officers' quarters		21		
				D-7	Officers' quarters, mess, and kitchen		54		
	2			D-8	Officers' quarters		24		
				D-10	2-story officers' quarters		51		
				D-102	Officers' quarters		24		
				D-103	do		50		
	1	1		E	Nurses' quarters, mess, and kitchen			42	
				E-4	do			37	
				E-5	2-story nurses' quarters, mess, and kitchen			76	
1				E-7	Nurses' quarters, mess, and kitchen			14	
	1			E-8	Nurses' infirmary			6	
				E-9	Nurses' quarters			26	
		2		E-10	do			36	
	1			E-15	Additions to nurses' quarters			40	
				E-20	Nurses' quarters			51	
				E-104	do			26	
				E-105	2-story nurses' quarters			50	
	1			F	Laboratory, head surgery and X ray				
				F-1	Head surgery				
				F-4	Laboratory				
				F-5	Clinic building				
				F-6	Head surgery				
				F-11	Laboratory and operating room				
		1		F-13	Chemical and bacteriological laboratory				
		1		F-20	Animal house				
	1			F-101	2-story laboratory, head surgery and X ray				
		1		F-102	Head surgery				
	1			G	Operating				
				G-4	Operating addition				
				G-101	Emergency and operating				
1	1			H	Garage				
	1			H	Shop				
	1			H	Exchange				
				H-1	Garage				
				H-1	Shop				
				H-1	Exchange				
				H-2	Orthopedic workshop				
		1		H-6	Exchange and amusement				
				H-11	Garage and stable				
				H-101	Exchange				
				I	General mess and kitchen				
	1			I-1	do				
	1			I-2	Detachment mess and kitchen				
				I-4	do				
				I-5	General mess and kitchen				
				I-6	Detachment mess and kitchen				
				I-7	General mess and kitchen				
				I-9	Nurses' mess and kitchen				
				I-13	Detachment mess and kitchen				
	1			I-14	Officers' mess and kitchen				
				I-17	Detachment mess and kitchen				
				I-18	General mess and kitchen				
	1	1		I-23	do				
		1		I-24	Detachment mess and kitchen				
				I-38	General mess and kitchen				
				I-103	Detachment mess and kitchen				
				I-104	Officers' mess and kitchen				
	1			J	Receiving				
				J-2	Administration and receiving				
				J-3	Receiving for overseas' patients				
				J-6	Receiving				
		1		J-8	do				

TABLE 4.—*Schedule of new hospital construction of the temporary type*

Number of beds.	Number of buildings.	Hospital.																					
		General Hospital No. 3.	Edgewood Arsenal.	Camp Hospital, Camp Eustis.	General Hospital No. 41.	General Hospital No. 25.	Camp Hospital, Camp A. A. Humphries.	Camp Hospital, Camp Jos. E. Johnston.	General Hospital No. 9.	Letterman General Hospital.	General Hospital No. 2.	General Hospital No. 6.	Base Hospital, Camp Merritt.	Norfolk Quartermaster Terminal.	General Hospital No. 14.	General Hospital No. 5.	General Hospital No. 24.	General Hospital, Camp Perry.	Raritan River, N. J.	Base Hospital, Fort Riley.	General Hospital No. 7.	Post Hospital, Fort Logan H. Roots.	Base Hospital, Fort Sam Houston.
782	23									9		4											
7,208	212	17			22	1	16	12		4	14		20	1	2	13			6	17		2	10
6,208	97	17			20		3	4	5				12		18					14			
660	11						4																4
128	4			1			1								1								
2,048	64			29			25						9					1					
32	1																	1					
132	4		4																				
2,944	46		3								17												5
1,053	13										6												
216	3																						
1,368	19					2					2	2	6		4								
756	27	1			2	1	1	2			1	2	3		2					6			
112	4			1			1							1		1							
56	2		1										1										
600	12					1		4				1	6										
550	11			6										1		4							
120	1																						
26	1																	1					
400	2																			2			
	37	5		4	4	1	2	3			2	1	3	1	7								
	4									3													
	1																						
	6						2						1										
	2																						
	1																						
	2		2																				
	5	1			1		1	1					1										
	4	1			1			1					1										
	10	1			1	1	1	1				1	1							1			1
	1			1																			
	1			1																			
	1			1																			
	1							1															
	1				1																		
	3	1					1								1								
24	2												1										
152	8							1			1	2	1										2
19	1			1																			
	3										1					1				1			
	1																						
	2	2																					
	8										2	2											
	1	1																					
	5										2	2											
	1								1														
28,331	889																						

RATED CAPACITY.

Hospital.	Patients.	Officers.	Nurses.	Detachment.
General Hospital No. 3, Colonia, N. J.	1,727	109	76	
Edgewood Arsenal	364	24	26	
Camp Hospital, Camp Abraham Eustis	1,040	28	84	300
General Hospital No. 41, Fox Hills, N. Y.	2,150	48	134	
General Hospital No. 25, Fort Benjamin Harrison	206		37	50
Camp Hospital, Camp A. A. Humphreys	1,897	49	147	
Camp Hospital, Camp Joseph E. Johnston	772	92	85	200
General Hospital, Lakewood, N. J.	320			
General Hospital, Letterman	442		42	
General Hospital, Fort McHenry	2,241	104	252	
General Hospital No. 6, Fort McPherson	374		85	50
Base Hospital, Camp Merritt	2,344	78	152	300
Camp Hospital, Norfolk Quartermaster Terminal	62			50
General Hospital No. 14, Fort Oglethorpe	1,596		76	

done at points other than the National Army and National Guard camps—Continued.

Hospitals.				Letter prefix.	Description.	Capacity.			
Base Hospital, Fort Sill.	Base Hospital, Camp Stuart.	Walter Reed General Hospital.	General Hospital No. 1.			Patients.	Officers.	Nurses.	Detachment.
		10		K	1-story ward	34			
4	19	14	18	K-1	do	34			
	3		1	K-5	2-story ward barracks	64			
	1	2		K-8	2-story ward and barracks	60			
	1			K-19	Prison isolation	32			
				K-20	1-story ward	32			
				K-23	Sick prisoners	32			
				K-101	1-story ward	33			
	7	12	2	K-102	2-story ward barracks	64			
	7			K-105	2-story ward	81			
		3		L	Double ward and lavatory	72			
3				L-1	do	72			
	4	2		M	Isolation ward	28			
				M-1	do	28			
				M-101	do	28			
				N	Detachment barracks				50
				N-2	do				50
		1		N-7	2-story double barracks				120
				N-8	Barracks and lavatory				26
				N-9	2-story detachment barracks				200
1	3			O	Storehouse				
		1		O-1	Medical storehouse				
		1		O-2	Storehouse				
	3			O-4	do				
		2		O-6	Linen and commissary storehouse				
		1		O-7	Baggage storage				
				O-101	Storehouse				
				P	Chapel				
				P	Guardhouse				
1				P	Mortuary				
				P-1	do				
				P-2	Chapel				
				P-2	Mortuary				
				Q-2	Laundry				
				Q-3	Laundry, disinfecting and linen				
				Q-4	Laundry				
		1		R-1	Psychiatric ward	12			
		1		R-2	do	19			
				R-3	do	19			
				S	Physiotherapy building				
		1		S-101	do				
				U	Curative shop				
		4		U-101	do				
				V	School				
		1		V-101	do				
				U-V	Curative shop and school				

RATED CAPACITY.

Hospital.	Patients.	Officers.	Nurses.	Detachment.
General Hospital No. 5, Fort Ontario	503		42	200
General Hospital No. 24, Parkview, Pa			102	
Camp Hospital, Camp Perry	64			26
Post Hospital, Raritan River, N. J.	237		32	
Base Hospital, Fort Riley	1,642	22	37	
General Hospital No. 7, Baltimore, Md				
Post Hospital, Fort Logan H. Roots	68			
Base Hospital, Fort Sam Houston	1,238		124	
Base Hospital, Fort Sill	352		14	
Base Hospital, Camp Stuart	2,057	70	88	
General Hospital, Walter Reed	2,140	22	114	120
General Hospital No. 1, Williamsbridge, New York City	804			
	24,640	646	1,749	1,296

TABLE 5.—*Schedules of new construction (temporary, except General Hospitals Nos. 20 and 21), tuberculosis hospitals.*[a]

Number of beds.	Number of buildings.	Hospital.								Letter prefix.	Description.	Capacity.			
		General Hospital, Fort Bayard.	General Hospital No. 21.	General Hospital No. 17.	General Hospital No. 16.	General Hospital No. 19.	General Hospital No. 8.	General Hospital No. 18.	General Hospital No. 20.			Patients.	Officers.	Nurses.	Detachment.
	1		1							B-102	2-story administration				
138	3	1				1	1			C-3	Officers' ward	46			
88	4	2				2				C-6	do	22			
192	6		4						2	C-103	2-story officers' tuberculosis ward	32			
34	1					1				D	Officers' quarters		34		
48	12	7				1	4			D-4	Commissioned officers' quarters		4		
24	1					1				D-8	1-story officers' quarters		24		
48	1		1							D-104	2-story officers' quarters		48		
37	1						1			E-4	Nurses' quarters and mess			37	
77	7	7								E-6	Female servants' quarters			11	
12	2					1	1			E-8	Nurses' infirmary			6	
104	4	2			1	1				E-9	Nurses' quarters			26	
26	1					1				E-22	2-story nurses' quarters and mess			26	
96	2		2							E-106	2-story nurses' quarters			48	
	1						1			F	Laboratory, head surgery and X ray				
	1					1				F-11	Small laboratory and operating				
	1	1								F-33	Dental infirmary				
	1								1	F-103	2-story laboratory and receiving				
	1						1			G	Operating				
14	2		1						1	G-102	Operating and nurses' infirmary			7	
	1					1				H	Shop				
	3				1	1	1			H-1	Exchange				
	2					1	1			H-1	Garage				
	1							1		H-9	do				
	1		1							H-102	do				
	1		1							H-102	Recreation				
	1		1							H-103	Exchange				
	1		1							H-104	Shop				
	1						1			I	General mess				
	4	1			1		1	1		I-2	Detachment mess				
	1						1			I-4	do				
	1	1								I-6	do				
	1					1				I-9	do				
	2				1	1				I-11	General mess				
	1					1				I-12	do				
	1		1							I-106	do				
	2		1						1	I-107	Detachment mess				
	1		1							I-108	do				
	2		1						1	I-109	do				
	1		1							I-113	Alteration to kitchen I-110				
	1								1	I-114	Alteration to mess I-106				
	2					1	1			J-2	Receiving building				
68	2	2								K-1	1-story ward	34			
408	12	2					10			K-4	Infirmary, tuberculosis ward	34			
128	2						2			K-5	2-story ward barracks	64			
720	20	6					14			K-7	Open-air tuberculosis ward	36			
240	4	2					1	1		K-8	2-story ward barracks	60			
462	14	2				9	3			K-12	Infirmary, tuberculosis ward	33			
245	7					6	1			K-13	do	35			
1,232	44				10	34				K-14	Open-air tuberculosis ward	28			
168	6			6						K-15	do	28			
23	1					1				K-50	Infirmary ward for detachment	23			
120	2		1						1	K-103-1	Infirmary ward, 2-story	60			
232	2		1						1	K-103-2	do	116			
232	2		1						1	K-103-3	do	116			
336	12		12							K-104	Open-air tuberculosis ward, 2-story	28			
26	1		1							K-106	Recovery tuberculosis ward	26			
256	8		8							K-107	Open-air tuberculosis ward, 2-story	32			
828	9		8						1	K-108	Semi-infirmary tuberculosis ward	92			
23	1		1							K-109	Infirmary ward for detachment	23			
74	1		1							K-110	Infirmary, tuberculosis for nurses	74			
26	1								1	K-118	Surgical ward	26			
28	1					1				M-1	Isolation	28			
56	2		1						1	M-102	Isolation ward	28			
884	17	6			3	8				N-2	Detachment barracks				52
500	5		5							N-101	Detachment barracks, 2-story				100
	6	1			1	2	2			O	Storehouse				
	2					1		1		O-4	do				
	4		4							O-102	do				
	1						1			P	Chapel				
	3				1	1	1			P	Guardhouse				
	1						1			P	Mortuary				
	1					1				P-1	do				
	1							1		P-3	Guardhouse				
	2		1						1	P-102	Chapel				
	1		1							P-102	Guardhouse				
	2					1	1			Q-4	Laundry				

[a] Data compiled from plans for general hospitals. Plans on file, Hospital Division, Surgeon General's Office.

TABLE 5.—*Schedules of new construction (temporary, except General Hospitals, Nos. 20 and 21), tuberculosis hospitals.*

Number of beds.	Number of buildings.	Hospital.								Letter prefix.	Description.	Capacity.			
		General Hospital, Fort Bayard.	General Hospital No. 21.	General Hospital No. 17.	General Hospital No. 16.	General Hospital No. 19.	General Hospital No. 8.	General Hospital No. 18.	General Hospital No. 20.			Patients.	Officers.	Nurses.	Detachment.
	1		1							Q-102	Laundry				
	1								1	Q-103	do				
41	1		1							R-102	Psychiatric tuberculosis ward	41			
	1						1			U	Curative shop				
	2		2							U-101	do				
	1		1							V-101	School				
	1					1				U-V	Curative shop and school				
8,294	293														

RATED CAPACITY.

Hospital.	Patients.	Officers.	Nurses.	Detachment.
General Hospital, Fort Bayard	628	28	129	312
General Hospital No. 21, Denver, Colo	1,940	48	103	500
General Hospital No. 17, Markleton, Pa	168			
General Hospital No. 16, New Haven, Conn	280		26	156
General Hospital No. 19, Oteen, N. C	1,600	62	58	416
General Hospital No. 8, Otisville, N. Y	1,212	16	43	
General Hospital No. 18, Waynesville, N. C	60			
General Hospital No. 20, Whipple Barracks, Ariz	502		7	
	6,390	154	366	1,384

TABLE 6.—*Schedule of hospital buildings, semipermanent (except General Hospital No. 28), of later design than buildings at hospitals of National Army and National Guard camps.*[a]

Number of beds.	Number of buildings.	Hospital.				Letter prefix.	Description.	Capacity.			
		Camp Hospital, Camp Bragg.	Camp Hospital, Camp Knox.	Base Hospital, Camp Mills.	General Hospital No. 28.			Patients.	Officers.	Nurses.	Detachment.
......	2	......	1	......	1	B-9	Administration and receiving	......	......	......	......
......	1	......	......	1	......	B-11	.....do	......	......	......	......
......	1	1	......	......	......	B-13	.....do	......	......	......	......
164	2	......	......	2	......	C-10	Officers' wing ward	82	......	......	......
4	1	1	......	......	......	D-4	Commissioned officers' quarters	......	4	......	......
51	1	......	1	......	......	D-10	Officers' quarters	......	51	......	......
81	3	1	1	1	......	D-11	Officers' quarters and mess	......	27	......	......
255	5	1	3	1	......	E-20	Nurses' quarters, 2-story	......	......	51	......
49	2	......	1	......	1	E-21	Nurses' quarters and infirmary	......	......	49	......
52	2	......	1	1	......	E-22	Nurses' quarters and mess	......	......	26	......
......	1	......	1	......	......	F-21	Large laboratory and mortuary	......	......	......	......
......	1	......	......	1	......	F-37	Laboratory and mortuary	......	......	......	......
......	1	......	......	1	......	G-8	Surgical wing	......	......	......	......
......	2	......	1	......	1	G-12	Large operating wing	......	......	......	......
......	1	1	......	......	......	G-103	Surgery and laboratory building	......	......	......	......
......	1	......	......	1	......	H-8	Exchange	......	......	......	......
......	2	......	1	1	......	H-12	Garage	......	......	......	......
......	1	......	......	1	......	H-13	Shop	......	......	......	......
......	1	......	1	......	......	H-14	Exchange	......	......	......	......
......	1	1	......	......	......	H-18	Garage and shop	......	......	......	......
......	1	1	......	......	......	H-20	Exchange	......	......	......	......
......	1	......	1	......	......	I-28	General mess and kitchen	......	......	......	......
......	4	......	1	2	1	I-34	.....do	......	......	......	......
......	1	......	......	......	1	I-39	Large kitchen building	......	......	......	......
......	3	......	1	......	2	I-42	Double cafeteria mess wing	......	......	......	......
......	1	1	......	......	......	I-53	Nurses' mess and kitchen	......	......	......	......
68	2	......	......	......	2	K-1	1-story ward	34	......	......	......
4,758	39	......	16	1	22	K-34	2-story wing ward	122	......	......	......
92	1	......	......	1	......	K-47	General isolation wing ward	92	......	......	......
612	6	......	......	6	......	K-56	2-story wing ward, divided	102	......	......	......
432	6	6	......	......	......	K-117	2-story pavilion ward	72	......	......	......
72	1	......	......	......	1	L-2	Double ward and lavatory	72	......	......	......
248	2	......	......	......	2	M-3	2-story isolation wing ward	124	......	......	......
354	3	......	1	......	2	M-4	.....do	118	......	......	......
57	1	1	......	......	......	M-104	2-story isolation ward	57	......	......	......
600	3	......	3	......	......	N-9	Detachment barracks, 1-story	......	......	......	200
100	1	......	1	......	......	N-10	2-story detachment barracks and mess	......	......	......	100
400	2	2	......	......	......	N-12	2-story detachment barracks	......	......	......	200
......	10	......	6	3	1	O	Storehouse	......	......	......	......
......	1	......	......	......	1	O-12	Food-preparation building	......	......	......	......
......	1	1	......	......	......	O-14	Storehouse and linen service	......	......	......	......
......	2	1	......	1	......	P-3	Guardhouse	......	......	......	......
......	1	......	......	1	......	P-4	Chapel	......	......	......	......
......	1	......	1	......	......	P-6	.....do	......	......	......	......
......	1	......	1	......	......	P-7	Guardhouse	......	......	......	......
116	1	......	1	......	......	R-4	Psychiatric wing ward	116	......	......	......
......	1	......	......	......	1	S-1	Physiotherapy building	......	......	......	......
......	1	......	......	......	1	U-1	Curative shop, 2-story	......	......	......	......
......	1	......	......	......	1	V-1	2-story schoolhouse	......	......	......	......
......	1	......	......	......	1	U-V	Curative shop and school	......	......	......	......
8,565	132										

RATED CAPACITY.

Hospital.	Patients.	Officers.	Nurses.	Detachment.
Camp Hospital, Camp Bragg	489	31	51	400
Camp Hospital, Camp Knox	2,186	78	228	700
Base Hospital, Camp Mills	990	27	77	....
General Hospital No. 28, Fort Sheridan	3,308	....	....	....
	6,973	136	356	1,100

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[a] Data compiled from plans for temporary hospital construction. Plans on file Hospital Division, Surgeon General's Office.

The available bed capacity and the number of beds occupied in the larger hospitals—general, base, port, and department base hospitals—controlled by the Surgeon General's Office directly, or used by it for the treatment of overseas sick, were charted from weekly or daily reports. This information was of incalculable value to the Surgeon General's Office in showing at all times the status of these hospitals. These data have been consolidated by months on the following chart covering the period January, 1918, to September, 1919.

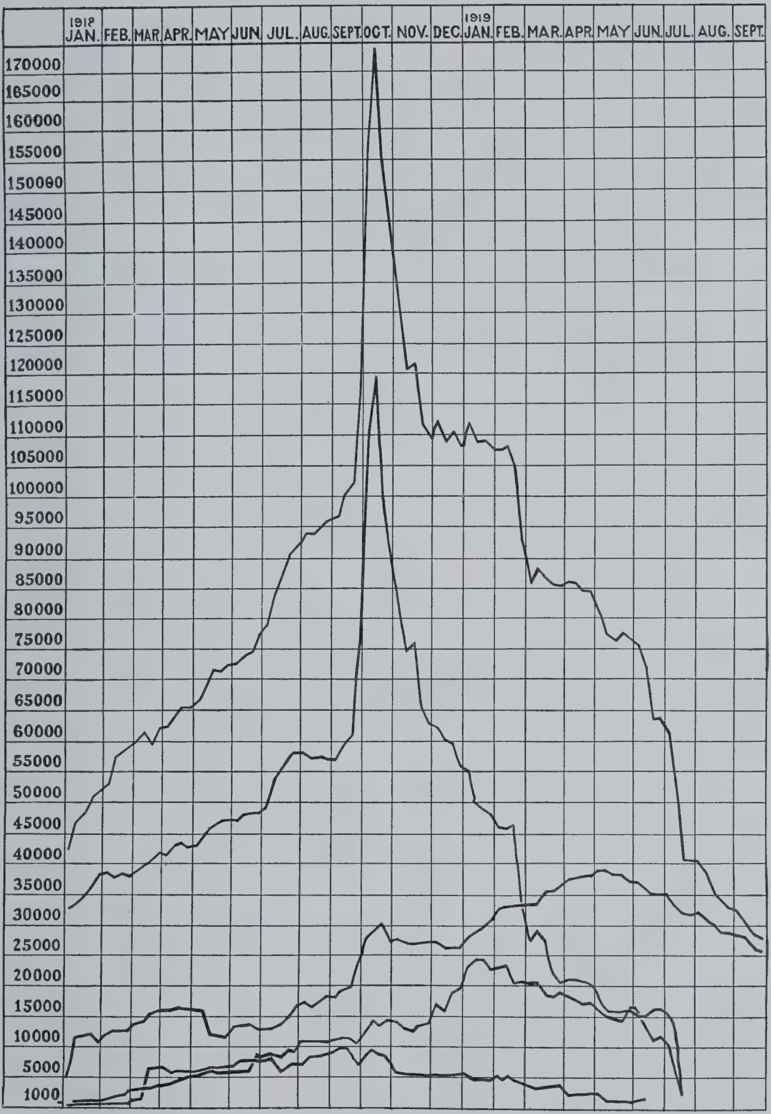
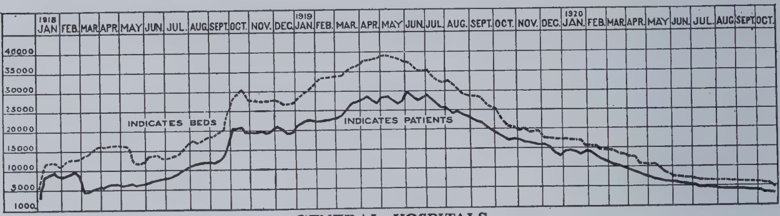


CHART OF NORMAL BED CAPACITIES IN LARGER HOSPITALS IN THE UNITED STATES

FIG. 10.

In Figure 11 the activity of the general hospitals is shown in a manner similar to the chart in Figure 10. However, but one type of hospital has been charted and space, both available and occupied, has been shown in Figure 11.

The activity of the base hospitals—National Army and National Guard camps—is shown in Figure 12, which was prepared in a manner identical to that for the general hospitals.



GENERAL HOSPITALS

FIG. 11.

The rapid rise in number of both patients and beds in October, 1918, was incident to the epidemic of influenza. The approximate maximum constructed capacity of these hospitals was fifty-five thousand beds, and this capacity was first available in July, 1918.[1] All the bed capacity shown as being higher than this figure was extemporized in corridors or on porches, or in the barrack buildings of the camps proper.

FUNDS APPROPRIATED FOR HOSPITAL CONSTRUCTION.

Funds were made available by Congress from time to time for the procurement of hospitals and were provided in the appropriation for construction and repair of hospitals. From May, 1917, to July, 1919, the following sums were appropriated:[2]

May 12, 1917	$750, 000. 00
June 15, 1917	2, 115, 267. 00
October 6, 1917	35, 000, 000. 00
March 28, 1918	19, 654, 300. 00
July 8, 1918	13, 936, 015. 00
July 9, 1918	80, 000, 000. 00
November 4, 1918	86, 469, 930. 00
July 11, 1919	[a]5, 000, 000. 00
	242, 865, 512. 00

The above amounts represent appropriations and not expenditures. However, it may be stated that during the active part of the war period the expenditures were practically the same as the appropriations, with the exception of the fiscal year ending June 30, 1919, during which not over half the sum appropriated for that period was expended for hospital construction.[3]

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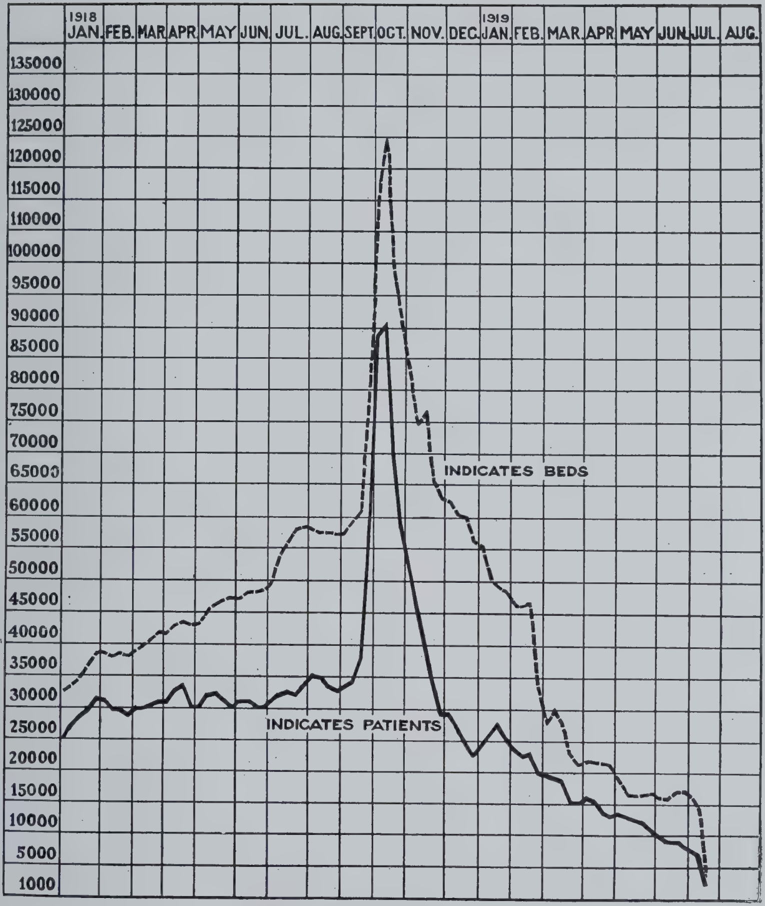
[a] In this amount, $350,000 appropriated to purchase land at Walter Reed General Hospital is not included.



BASE HOSPITALS

FIG. 12.

CLASSIFICATION OF CONSTRUCTION PROJECTS.

The major hospital construction projects may be briefly divided into three classes representing buildings erected, and beds provided in both entirely new construction and in altered buildings, as follows:

	Hospitals.	Buildings.	Beds.
Entirely new construction	62	3,597	88,460
Converted Army posts and leased buildings	39	659	29,383
Post hospital enlargements	48	365	6,056
	149	4,621	123,899

REFERENCES.

(1) Report of the Chief of Construction Division, W. D., 1919, 192.

(2) Ibid., 61.

(3) Taken from Treasury ledger accounts. On file, Funding Division, Office of Chief of Finance, War Department.

SECTION II.

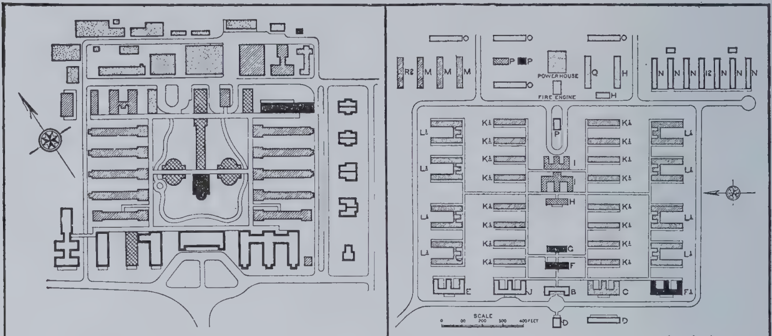
CONSTRUCTION AND IMPROVEMENT.

CHAPTER IV.

CONSTRUCTION PLANS FOR TEMPORARY HOSPITALS.

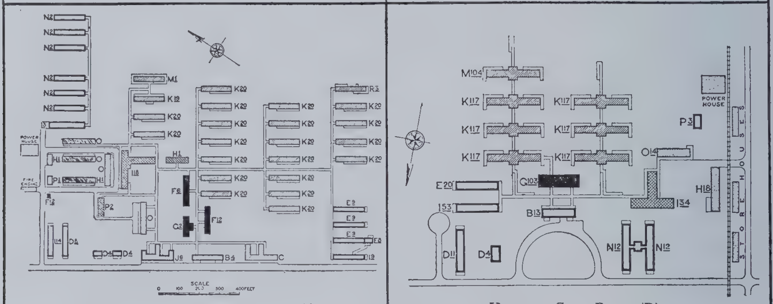
BLOCK PLANS.

Figure 13 (p. 58) shows various groupings of hospital buildings. The key inserted in this figure explains symbolically and by letters the use for which the building was designed. Block plan (A) is that of the Letterman General Hospital as that hospital was at the beginning of our participation in the war.[1] That this plan influenced the design of the early hospitals, built at the National Army and National Guard camps, is demonstrated when comparison is made between (A) and (B). Block plan (B) was used for the 32 hospitals of the National Army and National Guard camps, and for several other hospitals of approximately the same size (1,000 beds) built soon afterward.[2] The block plan next evolved (C) was for the hospital at Camp Abraham Eustis, Va.[3] This hospital was designed when the scarcity of materials was beginning to be acutely felt. The street construction was minimized by using only one street with a side arm and a loop; all kitchens, utility, and supply buildings were placed on the street; and storehouses (O) were built parallel to the street, one being placed well forward on a main corridor to enhance its accessibility. Another point of difference between (C) and (B) was the location of the isolation and psychiatric wards (M–1) and (R–3) on the main corridors in the hospitals constructed on plan (C). The block plan next developed was for a smaller hospital where more fire-resisting materials were to be used. The Camp Bragg hospital, in North Carolina, was of this type (D).[4] In so far as the layout only is concerned, (D) differed from (C) mainly in the corridor connection. In the type of hospital represented by (D), the connecting corridors passed through the center of the ward building on both floors and were constructed to permit isolation from the adjacent buildings. Opening the corridor doors and closing the ward doors freed the passage from end to end. This block plan did not permit of great extension because of the eccentric location of the general mess hall and kitchen. Block plan (E) was that for the hospital at Camp Mills, Long Island.[5] Upon the promulgation of the approved military program to place 3,360,000 men in France by June 30, 1919, and meanwhile maintain an average of 1,400,000 men in the camps of the United States,[6] it was necessary to take careful stock of the available doctors, nurses, other hospital attendants, materials, and labor. This affected the problem of the care of the sick, whether in camp hospitals or general hospitals, and, very materially, requests for new hospital construction, which, from that time on, had to be so planned that the maximum number of patients could be cared for by the minimum number of personnel. It resulted in the construction, at large hospitals, of large wards; in the general use of two-story buildings, more fire-resisting materials, consolidated kitchens and mess halls, the use of cafeteria systems and smaller mess halls. These changes in hospital construction influenced both interior arrangements and the block plan, but were effected only at Camp Knox, Ky., Camp



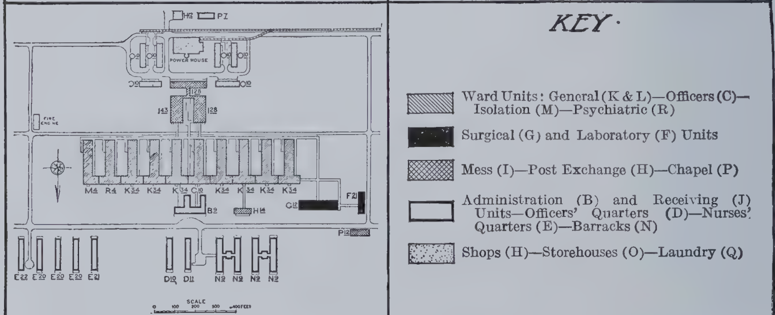
Letterman General Hospital (A)
Capacity 450 beds

Early Camp Hospitals (B) (schematic plan)
Capacity 1,000 beds



Hospital, Camp Abraham Eustis (C)
Capacity 750 beds

Hospital, Camp Bragg (D)
Capacity 450 beds


POWER HOUSE
FIRE ENGINE
SCALE
KEY
▨ Ward Units: General (K & L)—Officers (C)—Isolation (M)—Psychiatric (R)
■ Surgical (G) and Laboratory (F) Units
▩ Mess (I)—Post Exchange (H)—Chapel (P)
☐ Administration (B) and Receiving (J) Units—Officers' Quarters (D)—Nurses' Quarters (E)—Barracks (N)
░ Shops (H)—Storehouses (O)—Laundry (Q)

Hospital, Camp Mills (E)
Capacity 2,000 beds

Fig. 13.—Types of block plans for hospitals.

Jackson, S. C., and Camp Mills, Long Island, which were designed to be made the largest camps.[7] In a measure, also, the plan for the hospital at Camp Bragg, N. C., was influenced.[8] Here, however, the hospital was smaller and the large ward was less adaptable to a small hospital. The plans of the hospitals of these two classes of camps were prepared, at about the same time, in the fall of 1918.

INDIVIDUAL BUILDINGS.

The more commonly used hospital buildings have been divided into classes according to the purposes for which they were utilized. The following classification indicates the purposes of the more important buildings:

Class I. For general administration and the operation of the hospital:
  1. Administration building.
  2. Receiving building.
  3. Hospital exchange.
  4. Guardhouse.
  5. Chapel.
Class II. For general care and treatment:
  1. Ward buildings.
    (*a*) General wards—
      Common wards.
      Officers' wards.
      Nurses' wards.
    (*b*) Tuberculosis wards—
      Infirmary.
      Semi-infirmary.
      Ambulatory.
    (*c*) Psychiatric ward.
    (*d*) Isolation ward.
    (*e*) Ward barrack.
    (*f*) Prison ward.
Class III. For special care and treatment:
  1. Surgical buildings.
  2. Head surgical buildings.
  3. Laboratory buildings.
  4. Physical reconstruction buildings—
    (*a*) Curative shops.
    (*b*) School buildings.
    (*c*) Physiotherapy buildings.
Class IV. For food, housing, and supplies:
  1. Kitchen and mess buildings for patients.
  2. Kitchen and mess buildings for personnel.
  3. Quarters for all personnel.
  4. Storehouses.
Class V. For utilities and physical operation:
  1. Power house.
  2. Shops.
  3. Laundry.
  4. Garage.
  5. Fire station.

CLASS I. GENERAL ADMINISTRATIVE AND OPERATIVE BUILDINGS.

For the reception and discharge of patients and the general administration of the hospital, certain offices were required. A condensed list of the elements involved follows:

Reception and discharge:
- Receiving room.
- Clerks.
- Undressing room.
- Linen room.
- Observation rooms.
- Small laboratory.
- Patients' effects storage.
- Disinfector rooms.
- Clothing issue room.
- Dressing room.
- Discharging room.

General administration:
- Commanding officer.
- Adjutant.
- Waiting room.
- Clerks.
- Registrar.
- Post office.
- Information and telephone.
- Chaplain.
- Visitors' room.
- Toilet.

Receiving buildings.—The first type (plan J in Figure 14) was built for the National Army and National Guard hospitals.[9] It was necessary, later, both to enlarge and to redesign the administration and receiving buildings at all camps and cantonments in the United States, because of general additions to the hospitals.[9] In the receiving building greater floor area was provided, together with more adequate isolation space for observation and examination.

A combined receiving and administration building is shown in Figure 17 (B–9) [10] (p. 63). This building had the advantage of being larger and of possessing separate facilities for the admission of the contagious or those suspected of having communicable diseases. It permitted the discharge of general administrative duties, as well as the reception of the sick, and afforded opportunity for close contact between the hospital management and the troops in camp. It placed the dispensary where it was in easy contact with the hospital and where it was most accessible to the camp. The receiving building was the accepted point of contact with the members of the command to whom it was familiar. The dispensary, in the same building, was convenient for prescription work arising out of this contact. The entrance and hall farthest to the right on plan (B–9) was designed for the admission of suspects, and provision was made to keep these suspects separated from all other patients during examination and observation.[10] Through the central entrance, and the space to the rear of it, the ordinary cases were admitted, and to the left were provisions for the routine discharge of patients.

For the reception of large numbers, another type of building, J–3 in Figure 14, was designed, and was erected at General Hospital No. 41, Fox Hills, Staten Island, N. Y., [11] which was planned for a debarkation hospital.

Another type of combined receiving and administrative building (B–13) is illustrated in Figure 18 (p. 64).

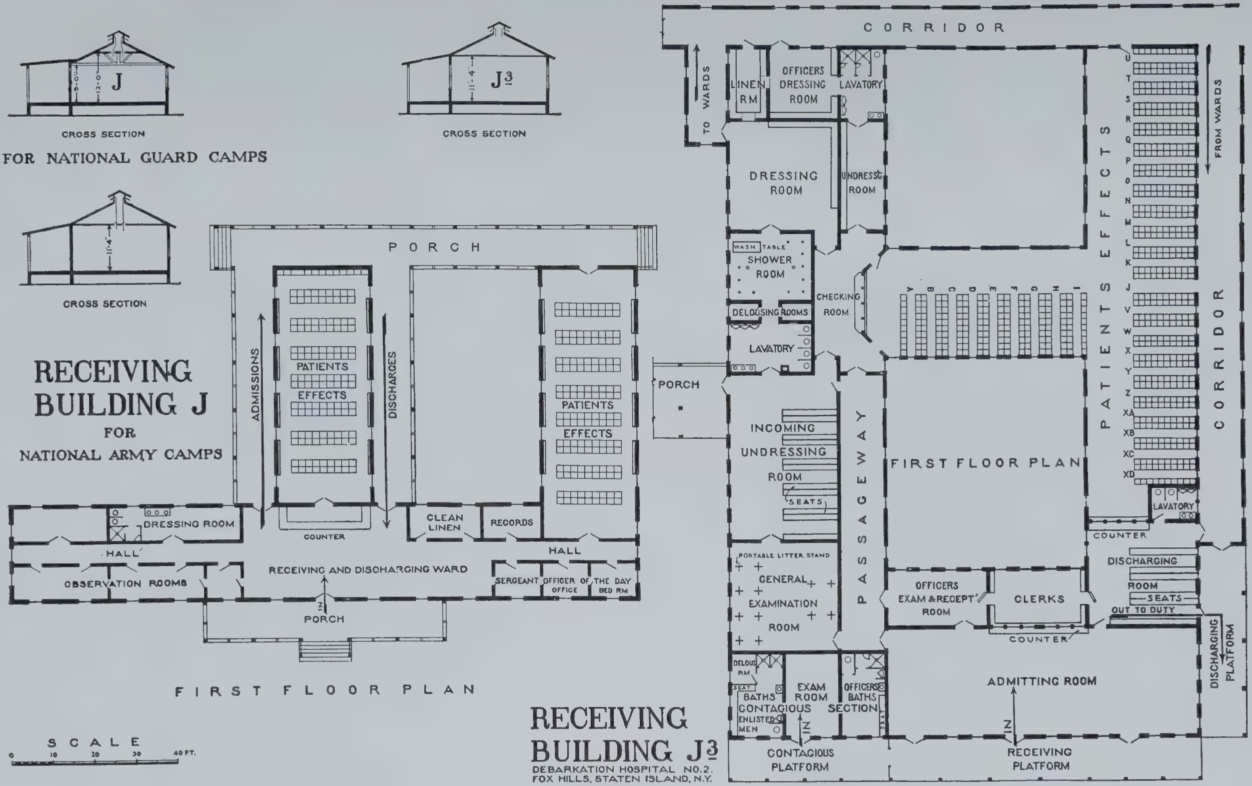

J
9'-0"
12'-0"
CROSS SECTION
FOR NATIONAL GUARD CAMPS
J3
11'-4"
CROSS SECTION
11'-4"
CROSS SECTION
RECEIVING BUILDING J FOR NATIONAL ARMY CAMPS
PORCH
ADMISSIONS
PATIENTS EFFECTS
DISCHARGES
PATIENTS EFFECTS
DRESSING ROOM
COUNTER
CLEAN LINEN
RECORDS
HALL
HALL
RECEIVING AND DISCHARGING WARD
OBSERVATION ROOMS
SERGEANT
OFFICER OF THE DAY
OFFICE
BED RM
N
PORCH
FIRST FLOOR PLAN
SCALE
0
10
20
30
40 FT.
RECEIVING BUILDING J3
DEBARKATION HOSPITAL NO. 2.
FOX HILLS, STATEN ISLAND, N.Y.
CORRIDOR
TO WARDS
LINEN RM
OFFICERS DRESSING ROOM
LAVATORY
DRESSING ROOM
UNDRESS'G ROOM
WASH TABLE
SHOWER ROOM
DELOUSING ROOMS
LAVATORY
CHECKING ROOM
PORCH
INCOMING UNDRESSING ROOM
SEATS
PORTABLE LITTER STAND
GENERAL EXAMINATION ROOM
PASSAGEWAY
DELOUS RM
SEAT
BATHS CONTAGIOUS ENLISTED MEN
EXAM ROOM
OFFICERS BATHS
SECTION
SEAT
N
CONTAGIOUS PLATFORM
A B C D E F G H I
FIRST FLOOR PLAN
OFFICERS EXAM & RECEPT' ROOM
CLERKS
COUNTER
ADMITTING ROOM
N
RECEIVING PLATFORM
PATIENTS EFFECTS
U T S R Q P O N M L K J V W X Y Z XA XB XC XD
LAVATORY
COUNTER
DISCHARGING ROOM
SEATS
OUT TO DUTY
DISCHARGING PLATFORM
FROM WARDS
CORRIDOR

FIG. 14.

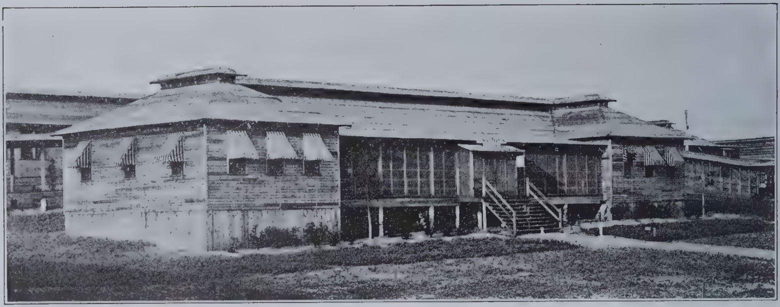


FIG. 15.—Administration building, base hospital.

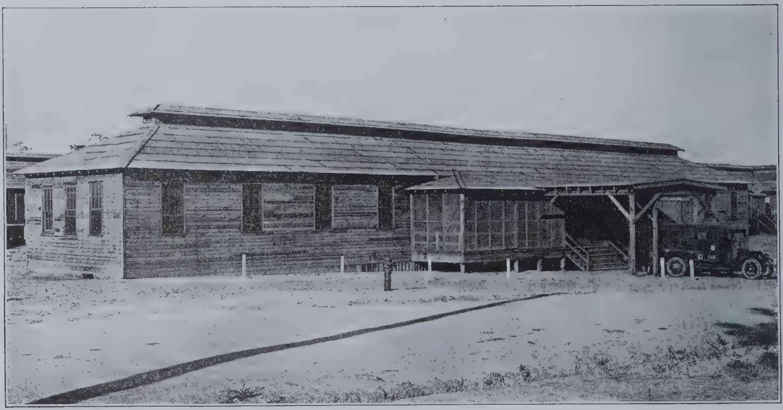


FIG. 16.—Receiving building, base hospital.

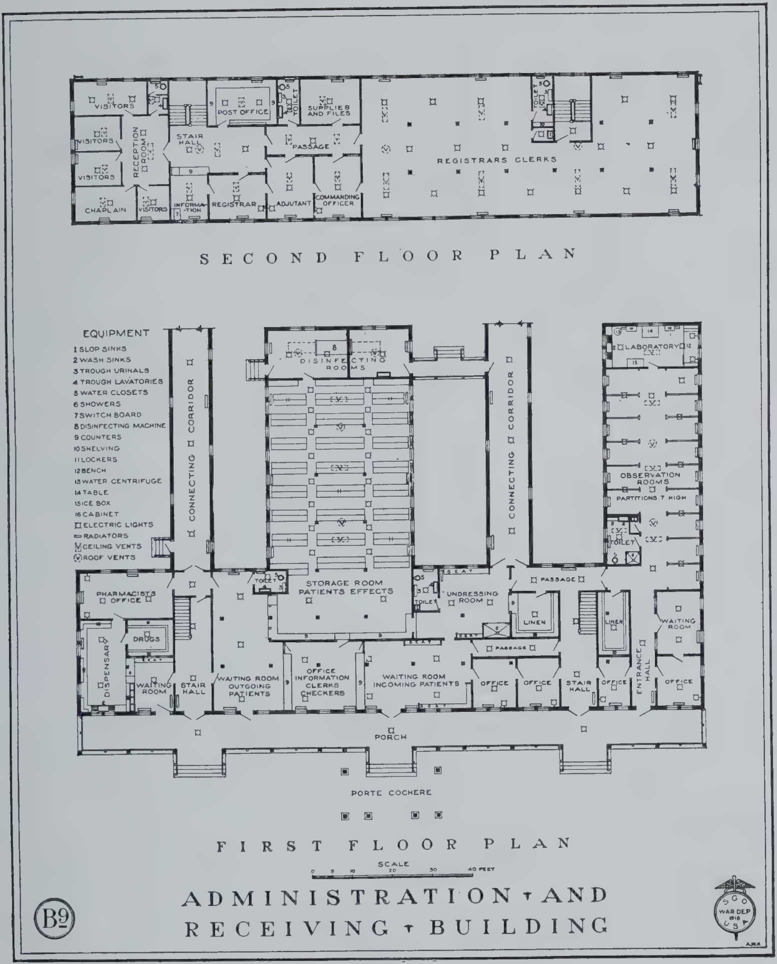

VISITORS
VISITORS
VISITORS
CHAPLAIN
VISITORS
RECEPTION ROOM
STAIR HALL
POST OFFICE
TOILET
SUPPLIES AND FILES
PASSAGE
INFORMA-TION
REGISTRAR
ADJUTANT
COMMANDING OFFICER
REGISTRARS CLERKS
TOILET
SECOND FLOOR PLAN
EQUIPMENT
1 SLOP SINKS
2 WASH SINKS
3 TROUGH URINALS
4 TROUGH LAVATORIES
5 WATER CLOSETS
6 SHOWERS
7 SWITCH BOARD
8 DISINFECTING MACHINE
9 COUNTERS
10 SHELVING
11 LOCKERS
12 BENCH
13 WATER CENTRIFUGE
14 TABLE
15 ICE BOX
16 CABINET
ELECTRIC LIGHTS
RADIATORS
CEILING VENTS
ROOF VENTS
CONNECTING CORRIDOR
DISINFECTING ROOMS
CONNECTING CORRIDOR
LABORATORY
OBSERVATION ROOMS
PARTITIONS 7' HIGH
TOILET
PASSAGE
PHARMACIST'S OFFICE
DRUGS
DISPENSARY
WAITING ROOM
STAIR HALL
TOILET
STORAGE ROOM PATIENTS EFFECTS
TOILET
UNDRESSING ROOM
SEAT
LINEN
LINEN
WAITING ROOM
PASSAGE
WAITING ROOM OUTGOING PATIENTS
OFFICE INFORMATION CLERKS CHECKERS
WAITING ROOM INCOMING PATIENTS
OFFICE
OFFICE
STAIR HALL
OFFICE
ENTRANCE HALL
OFFICE
PORCH
PORTE COCHERE
FIRST FLOOR PLAN
SCALE
0 5 10 20 30 40 FEET
ADMINISTRATION AND RECEIVING BUILDING
B9
S.G.O. WAR DEP 1918 U.S.A.
A.R.R.

FIG. 17.

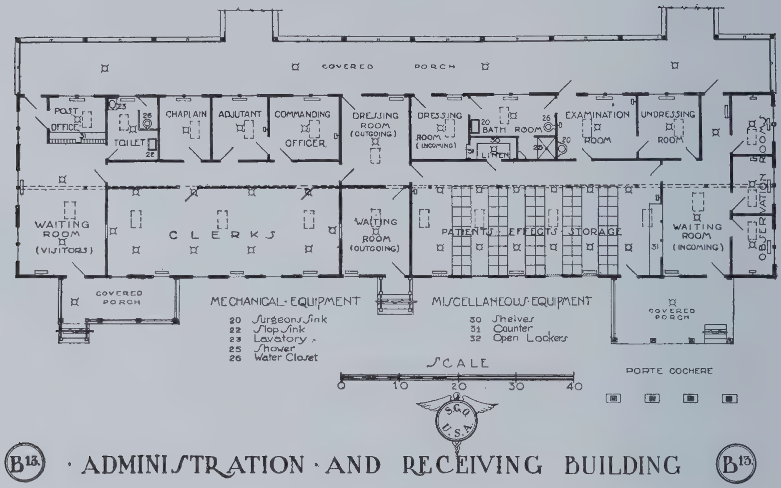


FIG. 18.

CLASS II. GENERAL CARE AND TREATMENT BUILDINGS.

This class included the various ward units. By ward units is meant the sum total of the facilities in one ward building used in the care of the sick, including the ward room, where the beds were located, and the auxiliary rooms for utilities, office, linen, and serving.

The letters for the plans or buildings represent the symbols used by the Surgeon General's Office, [12] designating roughly the purpose of the building: A, block plans; B, administration buildings; C, officers' wards; D, officers' quarters; E, nurses' quarters and wards; F, laboratory, X ray, head surgery, etc.; G, general surgical buildings; H, hospital exchange, garage, shops, etc.; I, all kitchen and mess buildings; J and K, receiving buildings; L, wards (common and tuberculosis); M, isolation wards, and N, psychiatric wards. Numerals following these letters indicate subsequent variations and new designs; [13] numerals above 100 further indicating a tile construction. As an example: B represents the earliest frame administration building; M–3, the third variation or newer design of frame isolation ward; and F–102, the second variation or newer design of a tile laboratory.

In ward designing, four classes of patients were provided for: [12] General, tuberculous, contagious, and mental. For the general cases, two variations from general designs were made: One to provide for officer patients and the other, a minor modification of the general ward unit, for prisoner patients.[14]

Although several types and variations of general ward units were constructed during the war period, by far the largest number of sick were treated in but two types of wards: [15] The one-story single ward (K–1) and its derivative, the double ward (L–1) and its final form (K–20); and the two-story ward barracks (K–5).

The other general ward units differed from these types in minor details with two exceptions: The ward building known as (K–105) [16], a two-story adaptation of the one-story single ward (K–1); and a special and distinctly different type of building (K–58)[17].

The following tabulation shows the total bed capacity of the different types of wards constructed throughout the country: [15]

Building plan.	Description.	Number of buildings.	Number of beds.	Percentage of all bed construction.
K–1	1-story ward	491	16, 694	14
L–1	Double ward and lavatory	89	6, 408	5
K–20	1-story ward	97	3, 104	2½
	Total	677	26, 206	21½
K–5	2-story ward barrack	395	25, 280	21
K–105	2-story ward	13	1, 053	1
	Total	408	26, 333	22
K–34	2-story wing ward	57	8, 174	7
K–58 and K–117	2-story pavilion ward	6	432	½
Other types	New construction		36, 219	32
	Extemporized wards in leased buildings		20, 218	17
	Grand total		117, 612	100

The K–1 type of the one-story ward was designed in the early summer of 1917, and was built at all the National Army and National Guard camps.[18] The plan K–1, and its final form K–20, were also used in the construction of most of the other camp hospitals and the general hospitals previous to the fall of 1918.[15] The K–20 type of one-story ward [19] was a revised form of K–1 and included in its design various changes made in plan K–1, from time to time, as experi-

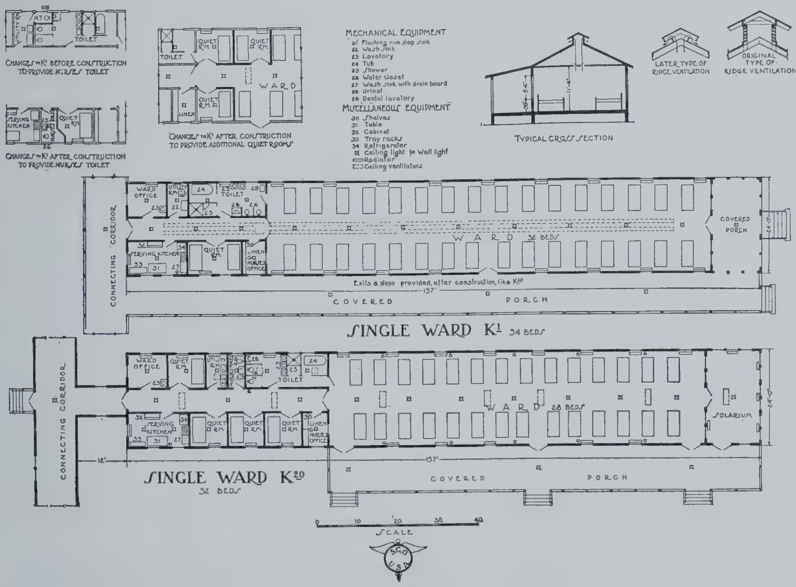
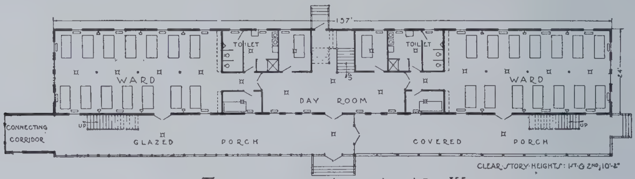


FIG. 19.

ence dictated and as conditions demanded. The double ward L–1 was evolved by combining, for purposes of economy, the toilet facilities of two K–1 wards.[20] This type was discontinued after the completion of the hospitals at National Army and National Guard camps in the early fall of 1917.[13] These constituted the one-story pavilion types of wards.

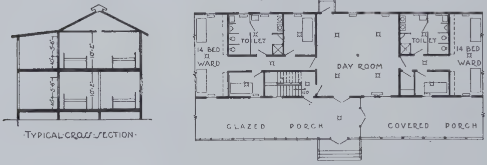
The first of the two-story type wards, known as a K–5 ward-barrack, was designed in the early part of December, 1917, and was erected at many of the hospitals [21] to provide for a very considerable increase in the capacity of the hospitals at the camps which became necessary at that time. The two-story type was selected in order to concentrate the required number of beds in as small an area as possible, thus obtaining economy in first cost and facilitating administration. Then, too, in many of the hospitals already built the area available for expansion, immediately adjoining the hospital, was limited. When making the increase in bed capacity it was necessary also to increase the housing capacity for the correspondingly augmented enlisted personnel. In order to secure further economy in cost and more rapid erection of the buildings, it was decided to make but one design which could serve both purposes and to use this type of building in sufficient numbers to provide increased bed capacity and, at the same time, increased housing for personnel. This building had decided advantages in its flexibility, since it could be used either as a ward for the ambulatory patients or as a barrack.



CLEAR·STORY·HEIGHTS: 1ST & 2ND, 10'-2"

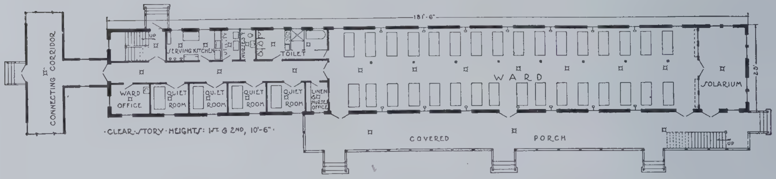
·TWO·STORY·WARD·BARRACK K5·

·FIRST·STORY· 2ND·STORY·SIMILAR·



·TYPICAL·CROSS·SECTION·

·K5 LATER·PLAN for CENTER·SECTION·of·K5



·CLEAR·STORY·HEIGHTS: 1ST & 2ND, 10'-6"·

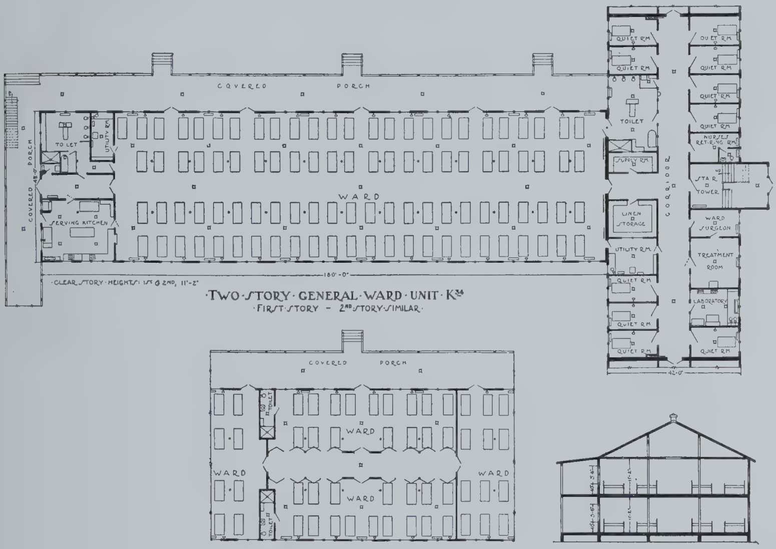
·TWO·STORY·WARD·K105

·FIRST STORY – 2ND STORY SIMILAR, OMITTING OFFICE, SERV. KITCHEN & 1 QUIET R'M.

FIG. 20.

The two-story ward building of the K–105 type was designed to meet the special conditions which arose at United States Army General Hospital No. 2, Fort McHenry, Md.,[22] where, during its erection, a large number of the K–5 buildings were being constructed. It was found that the existing one-story wards were not sufficient in capacity to provide the number of beds desired at that place, so it was determined to substitute, for some of the K–5 buildings, a number of two-story buildings suitable for acute cases. This K–105 building followed the general design of the one-story ward building K–1; but the second story was arranged for convalescents; and the diet kitchen, the ward office, and one quiet room were omitted.[16]

During July, 1918, it became necessary to design several large camp hospitals of about 2,500 beds each, and to make an extensive enlargement of one of the existing camp hospitals where the available space was limited.[23] It was found in the case of the new camps that the one-story ward (K–20), if built in sufficient numbers to give the required bed capacity, would cover an immense area, thus making the first cost excessive. It would also either jeopardize administration or demand more personnel than could be supplied. These conditions again led to the use of two-story buildings and to the further necessity for concentrating the beds into even a smaller area than was possible by the use of a K–5 ward barrack. From these requirements the K–34 type of two-story ward developed and was called the Knox type,[24] because it was first designed and built at Camp Knox, Ky.



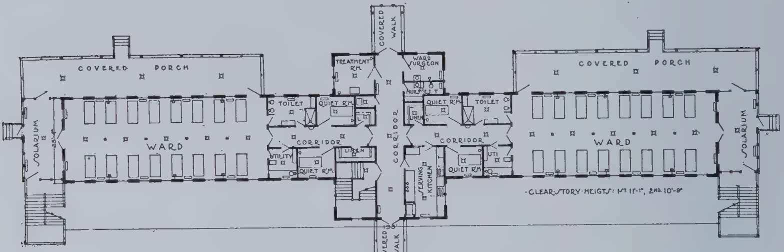
TWO-STORY GENERAL WARD UNIT K34
FIRST STORY – 2ND STORY SIMILAR

K58 SUBDIVISION OF K34 INTO FOUR WARDS

TYPICAL CROSS SECTION

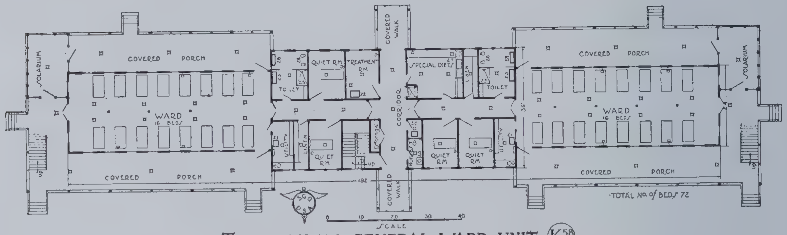
FIG. 21.

Just previous to the signing of the armistice a two-story ward building (K–58 in Figure 22) was in course of design, intended for use in hospitals not exceeding 1,000 beds.[17] When, due to the ending of the war, it was no longer necessary to build large camps, one of them, Camp Bragg, N. C., was so reduced in size as



-TWO-STORY-GENERAL-WARD-UNIT-K^{17}

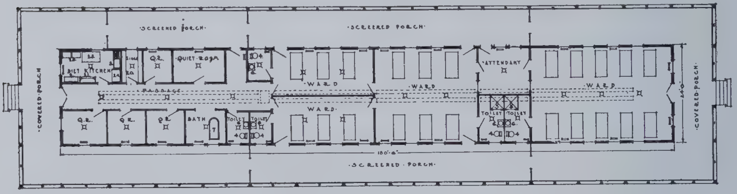
-FIRST-STORY—SECOND-STORY-SIMILAR-



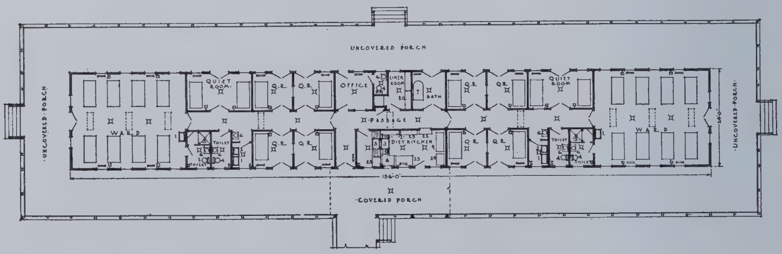
-TWO-STORY-GENERAL-WARD-UNIT-K^{58}

FIRST STORY-2ND STORY SIMILAR

FIG. 22.



ISOLATION WARD (M)



ISOLATION WARD (M^1)

FIG. 23.

to make a small hospital of only 400 beds necessary, instead of the 2,500 beds previously contemplated. The K–58 ward was used at that place and at a few others where hospitals of small capacity were needed.[15]

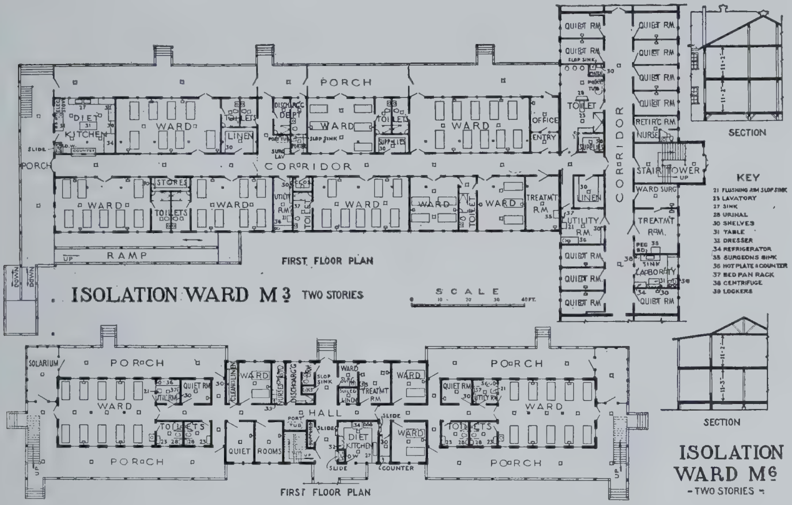


FIG. 24.

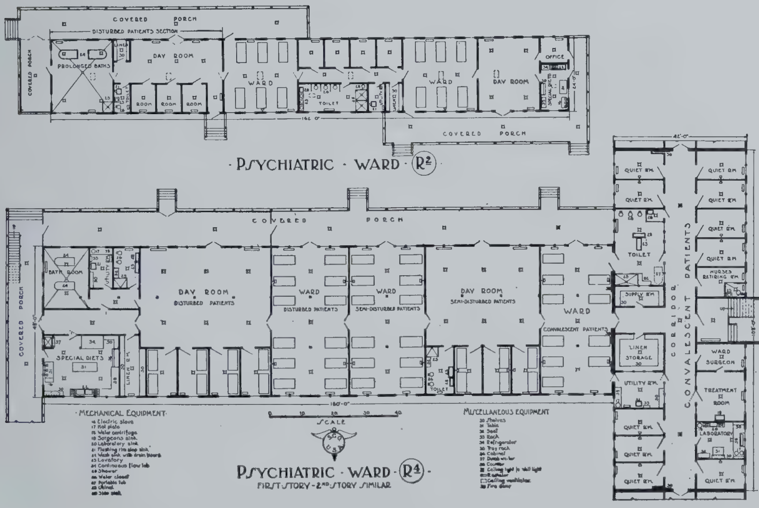


FIG. 25.

The designs of the isolation and psychiatric ward units were not greatly changed from the original plan, except when it was necessary to conform with changes in the general ward units. Figure 23 shows the original one-story isolation wards (M and M–1) constructed as part of the early hospitals,[25] and

Figure 24 shows the two-story ward unit (M–3) used with the Camp Knox type of two-story ward,[26] and the latest design of isolation ward (M–6)[27] corresponding with the general ward unit (K–58). Figure 25 exhibits the plan of the original one-story type of psychiatric ward (R–2);[28] and the later, two-story type (R–4),[29] corresponding with the two-story general ward unit (K–34).

Some of all of the following facilities constituted the various ward units:[30]

FOR GENERAL CASES.

(*a*) *General ward units*—

I. Bed facilities	1. Ward proper.
II. Toilet facilities for—	
(*a*) Bed patients	2. Utility room.
(*b*) Ambulant patients	3. Toilet room.
III. Recreation facilities	4. Day room.
IV. Service—	
(*a*) Feeding	5. Serving kitchen.
(*b*) Supply	6. Linen room.
(*c*) Cleaning rooms	7. Slop sink closet.
V. Administration—	
(*a*) Officers' administrative work	8. Ward office.
(*b*) Nurses' administrative work	9. Nurses' office.
(*c*) Convenience for nurses	10. Nurses' retiring room and toilet.
VI. Special facilities for—	
(*a*) Care of acutely sick or moribund	11. Quiet rooms.
(*b*) Minor medical and surgical treatment	12. Treatment rooms.
(*c*) Minor chemical and bacteriological work	13. Ward laboratory.

(*b*) *Prison ward units.*—Contained the same facilities as in the general ward unit, with additional provisions for the possible restraint of the patients, and their isolation under restraint in case of complication with contagious disease.

(*c*) *Officers' ward unit.*—This unit had the same facilities as the general ward unit, with the beds in separate rooms or in wards of two or four beds each, instead of in wards of 10 or more beds. Cooking and messing facilities were made part of the unit.

FOR CONTAGIOUS CASES.

Isolation ward unit.—Had facilities especially arranged for the control of infectious diseases (sterilizing and disinfecting apparatus) in addition to the facilities of the general ward units.

FOR TUBERCULOSIS.

Tuberculosis ward units.—Had the same facilities as in the general ward unit, but they were arranged in three types of ward, modified to give better ventilation, heating, and increased floor space per bed.

FOR MENTAL CASES.

Psychiatric ward unit.—This unit, also, had the same facilities as in the general ward unit, grouped in a special manner, with the addition of facilities for minor hydrotherapy (continuous baths).

GENERAL WARD UNITS.

WARD PROPER.

Dimensions of the wards were determined from a study of several factors, that is, the maximum number of beds per ward, the cubic space per bed, the floor area per bed, and the number of rows of beds, whether two or four.[13] Structural conditions, influencing the size of the ward were the timber sizes available and a limit to the length of the building, that is, the placing of it on the ground so that all buildings could be located on any terrain, however rough.[13]

The number of beds in each ward in new construction varied from a minimum of 14 to a maximum of 100.[30] Of all the beds provided in new construction, 44 per cent were in wards of 14 or 16 beds each, 44 per cent in wards of 25 to 35 beds each, and 12 per cent in wards of over 35 beds each.[15]

Wards first constructed were relatively small, containing from 15 to 30 beds each.[30] This was believed to be the ideal size. The best size of the ward unit or of the ward wing, from an administrative standpoint, was later found to be from 50 to 100 beds.[31] The psychological effect of treating patients in large numbers, even as high as 100 in a ward, was determined to be negligible, since the patients had become accustomed to living "in a crowd." On the other hand, in the interests of economy in first cost and operation and of satisfactory administration, it was considered desirable to make the wards larger than these limits, thus concentrating a greater number of beds in a given area and minimizing required personnel. Structurally, the large wards were cheaper in first cost, partly because of the concentration of toilet, utility, and diet services effected, and partly because of the saving in partitioning. Another argument which favored their adoption was that the head house and wing type of building lent itself much more readily and economically to a large dividing unit. In a measure, also, connecting corridors were converted into active hospital space. The solution of the problem was reached by balancing the two sets of opposing factors, giving sufficient emphasis to the contagious factor, when the cases to be treated were from raw troops, as in the camps, and not quite so great emphasis when patients came from seasoned troops who had acquired some immunity, as, for instance, in cases returning from overseas.

It was the rule to provide not less than 800 cubic feet of air space per bed,[31] and a minimum spacing between beds of three to three and a half feet.[30] The floor area per bed, including the necessary aisle space, varied from 70 to 85 square feet.[30] In computing air space, the excess of height from floor to ceiling above 12 feet was disregarded.[13]

Beds were arranged in two rows,[30] parallel to the long axis of the wards, except in the few wide wards which were built, where more than two rows were placed.[30] Two rows of beds were found to be the best arrangement;[32] it permitted the making of sheet cubicles around each bed, which then had light and air directly from the outside. The three-row or four-row scheme was used in those wards which were 48 feet wide, as a matter of ecomony entirely, since this made it possible to put 100 beds in a ward without making the building excessively long.[30]

Having determined the factors most intimately concerning the patient, the actual dimensions of the ward were laid out, consideration being given to the sizes of timbers most readily available, the length of studs used for the standard 12 or 24 foot lengths, and the same for floor joists. These sizes determined the actual width and height of wards,[13] for example, in the one-story ward the width, out to out, was 24 feet—two lengths of joists—and the height was 11.3 feet, being the 12-foot length of studs. Similarly, in the large wards the out width was 48 feet and the studs extended through the two stories, giving a story height of 11.2 feet.

It was found by experience in locating buildings on the various sites that a length of from 150 to 180 feet was the maximum permissible.[33] Greater lengths usually involved excessive cost for excavation and grading, or building up of the foundations of one end of the building when placed on a sloping grade.

The windows were spaced so as to come between alternate beds;[30] thus each bed had the advantage of a window, and the number of windows was not excessive. Since it was necessary to conserve to the utmost glass and other materials used for windows,[34] the size of these was determined from the sizes of glass available, i. e., 10 by 15 inches, with six lights to each sash. As window sashes were not counterbalanced,[35] this size was reasonably easy of operation; whereas the larger size—nine lights per sash—would have been heavy without counterbalances. Because of the nation-wide shortage of hardware[36] and resultant restrictions imposed by the War Industries Board,[37] the counterbalance was not used. The window area in wards was about 12 per cent of the floor area,[37] except in ward barracks, where the percentage approximated 19,[37] due to the fact that wards were short and without a solarium at the end and that the four end windows contributed to increase in ratio. In the latest ward (K–58) the percentage was 21,[37] windows being placed between each bed, as the restriction on the use of glass had passed at the time this ward was designed.[34]

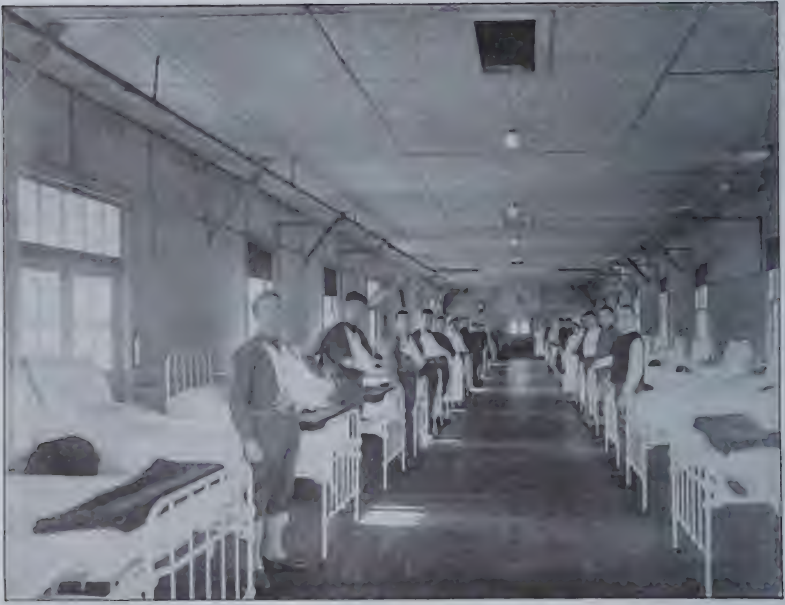


FIG. 26.—Interior of typical one-story ward of temporary construction.

In addition to the sliding sash of windows, ventilation was arranged for by ridge ventilators.[38] In the first designs a continuous louver ventilator was used,[30] but this was found to be unsatisfactory, particularly in cold, windy weather, and was changed to a special type,[19] as shown in Figure 19. It is interesting to note that the same conditions obtained in the Civil War hospitals.[28] At first, ridge louver ventilators were used and later changed to a type which was almost the same design as the second type shown in Figure 19. Even this method of ventilation was not entirely satisfactory, one objection being that it caused a vast amount of dust to collect in the attic space. In later buildings, such as K–34 and K–58, commercial metal ventilators were used.[17]

Porches were added to all the wards [12] on the long side, and, although they eliminated the direct sunlight on one side of the ward, these porches were a great advantage in permitting the wheeling of beds into the open air with a minimum of travel, and in providing a space to be used for expansion in sudden emergency.

AUXILIARY ROOMS.

The toilet and day rooms were placed immediately adjoining the wards;[30] and the utility room was placed either adjoining the ward or near it, because of its continued use in the treatment of patients.[30] The remaining rooms were grouped as near the ward as possible, but, excepting the nurses' office, not directly adjoining.[30] The nurses' office was placed immediately adjacent, usually; sometimes it consisted of a station in the ward itself, as in later designs.[30] All the rooms were at the corridor end of the ward.

Utility rooms were designed large enough to permit the emptying and cleansing of bedpans and urinals, as well as their storage.[21] In the early design it was found that these rooms were too small, and they were consequently increased in size in later designs.[39] In some cases an electrical outlet was added for attaching heating apparatus, and in a few cases utensil sterilizers were added, but this was not the general practice.[40] The slop sink was of the flushing rim type, when available, and the fixture was supplied with hot and cold water with combination nozzle.

Toilets were designed to give sufficient space for the needs of ambulatory patients. The number of water-closets was determined on a basis of 1 to each 15 or 20 beds.[30] In all the early designs, stalls were provided, usually without doors, although in a few buildings doors were used.[30] Later the stalls were omitted entirely, for purposes of cleanliness, better ventilation, easy inspection, and economy in construction and maintenance.[39]

Lavatories of the individual type were installed in the same ratio as that for water-closets.[30] These lavatories were supplied with hot and cold water in the earlier designs,[30] but in the late design a wash tray was supplied, and so arranged as to permit washing under a running, tepid stream, thus enhancing cleanliness as well as permitting economy in first cost and maintenance. The number of washing positions at each tray was in the same ratio as for individual lavatories. Showers were provided in the ratio of 1 shower head to each 20 or 30 beds.[30] In the early designs a separate stall was provided for each shower head,[41] while in later designs all shower heads were in one stall.[17] They were supplied in some instances with hot water control,[30] and in other, later instances, with tepid water, controlled as was water for the wash trays, by an automatic temperature regulator.[30] Each shower head had a self-closing valve, operated by a pull chain. One tub with hot and cold water faucets was provided for each ward.[30]

Urinals were provided in the ratio of 1 to each 25 beds;[30] the early ones were of wood, lined with galvanized iron, and later ones either an enameled iron, flushing type, or, later still, a vitreous-ware, steel type.

In the early buildings a dental lavatory for cleansing the mouth and teeth was installed,[41] but this was omitted when the wash trays for washing in running water were adopted.

Serving kitchens contained the usual equipment for serving food. Though the special diets were principally prepared in the main diet kitchen, a part of the general kitchen, and were carried to the ward serving kitchens to be distributed by trays from there to the patients, there was some preparation of minor special diets in the serving kitchens. It was in this room that the patients' dishes were washed and sorted. In the large wards (K–34) arrangements were made for serving patients through a window opening directly into the ward.[42] As a large proportion of the patients were ambulatory, but at the same time not quite able to go to the main mess, they were served in cafeteria style,[43] and for this purpose the window proved very useful.

Slop sink closets were not at first provided the wards. They were found to be necessary, however, particularly to afford a place for the storage of brooms, mops, cleaners' pails, etc., and they were installed.[44] They were equipped with necessary racks for utensils, and an ordinary slop sink.[45]

A ward office, especially for the use of the ward surgeon, was provided for each ward,[30] except in Debarkation Hospital No. 3 and in some other converted buildings, where, there being several wards on a floor, the offices were combined at one point.[46]

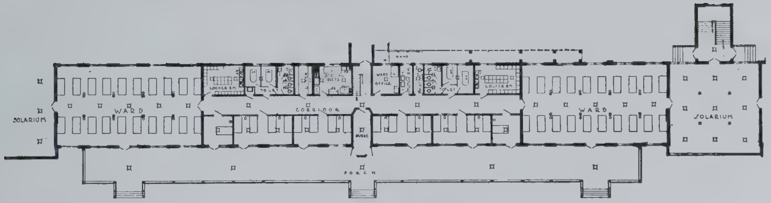
A nurses' office, or station, was sometimes placed in an immediately adjoining room, as in the early wards,[30] but, in later designs, a station was established in the ward itself. This station consisted of a desk, placed near the wall, with space for the nurses' records.

Quiet rooms were provided, usually to the extent of 10 per cent of the beds in the ward.[30] In the earlier wards one of the quiet rooms was frequently taken for treatment purposes, and in the later designs a special treatment room was provided.[46]

In the earlier construction no ward laboratories were provided;[41] but later they were, for minor or routine laboratory procedures, at the ratio of 1 to each 200 beds.[42] The scope of the work done in the hospital laboratory increased to such an extent that this measure was a necessity in practically every large camp.[47]

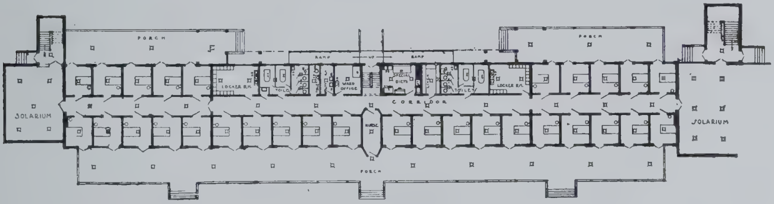
Some of the characteristics of the general wards commonly used during the war are shown as follows:

Design.	One-story.			Two-story.			
	K–1.	L–1.	K–20.	K–5.	K–105.	K–34.	K–58 (K–117).
Bed capacity of each ward	32	34	28	14	38 32	100	16
Bed capcity of buildings	34	72	32	64	77	220	72
Total bed capacity of all construction	16, 694	6, 408	3, 104	25, 280	1, 053	3, 174	432
Number of rows of beds	2	2	2	2	2	4	2
Clear height of story (feet)	11. 3	11. 3	11. 3	10. 2	10. 5	11. 2	10. 4
Floor area per bed (square feet)	80	77	77	80	76	73	87
Air space per bed (cubic feet)	900	870	870	800	800	810	880
Spacing of beds, center to center (feet)	6. 5	6. 5	6. 4	6. 2	6. 2	6. 3	6. 5
Window area percentage of floor area	12	11	13	19	13	11	21



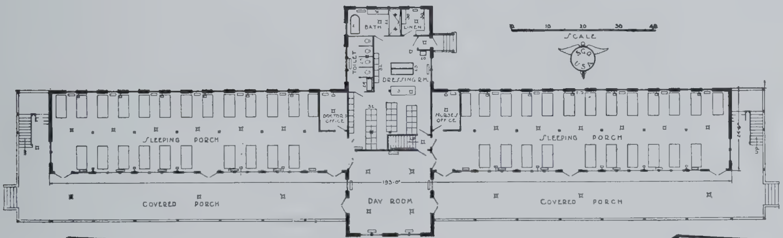
· K109 · CENTER · SECTION · FIRST · FLOOR

TUBERCULOSIS WARDS (INFIRMARY)

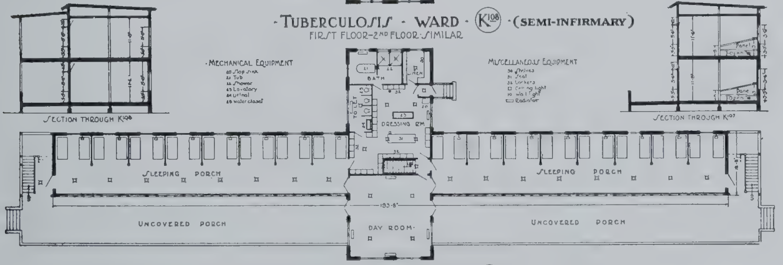


· K109 · LEFT · SECTION · FIRST · FLOOR

FIG. 27.



· TUBERCULOSIS · WARD · (K108) · (SEMI-INFIRMARY)
FIRST FLOOR–2ND FLOOR · SIMILAR



TUBERCULOSIS WARD (K107) · (AMBULATORY)
· FIRST · FLOOR–2ND FLOOR SIMILAR

FIG. 28.

TUBERCULOSIS WARDS.

The infirmary, Figure 27, was used for the cases confined to bed.[48] Here, provision was made for heating all parts of the building and, at the same time, for good ventilation and easy access to porches. In each hospital for the treatment of tuberculosis about one-third of the beds were placed in infirmaries.[49] This ratio was satisfactory early in the war; but later, however, nearly two-thirds of the patients, then remaining for treatment, required accommodation in the special ward.[50]

The K–107, ambulatory, or fresh air ward, Figure 28, was constructed with an inclosed and heated central portion.[51] The ward proper was without heat and was open on one whole side, the front. The central portion contained the day room, lockers for clothing, a dressing room, toilet facilities, etc. The buildings faced the south; the open side of the ward proper being fitted sometimes with curtains of various designs, or with hanging frames covered with canvas swung into place from the top. None of these various arrangements for admitting the maximum of air and light and at the same time excluding rain, snow, and high winds, was satisfactory.[13] Every known variety worthy of trial was used and no one found free from serious fault.

The semi-infirmary K–108 was a compromise between the infirmary and ambulatory ward.[52] Though similar to the ambulatory ward, it was only moderately heated in the ward proper, was less open in front, and contained sometimes one, sometimes two, rows of beds.

CLASS III. SPECIAL CARE AND TREATMENT BUILDINGS.

The laboratory.—Figure 29 (F) shows the original type of laboratory built for the National Army and National Guard hospitals.[53] The character of the addition which was later made to all of these laboratories is also shown. The mortuary (P), built when the hospitals were constructed, and the animal house (F–19) built later for all of these hospitals, were in the earlier days separate buildings, which, with the laboratory, made a total of three buildings for the laboratory service, including the X-ray. Later laboratory plans are shown in the same figure. In these later plans all the laboratory activities were included in one building, and the X-ray department was moved to the surgical building.[13] This consolidation of the laboratory activities brought the autopsy work under easier and better operation, placed the animals close at hand, and reduced cost. The undesirability of housing animals in the same building occupied by persons, particularly in summer, was known; but the open passage on the first floor, separating the animals from the remainder of the building, minimized any objectionable features.

Head surgery buildings.—Two types of the original head surgery building are shown in Figure 30. The smaller type (F–6), for eye, ear, nose, throat, and dental work, was built at the smaller camp hospitals;[54] and the larger type (F–1), for the same work but providing greater space, was built at the larger cantonment hospitals.[55] In later plans the activities of the head surgery building were consolidated with the general surgery in a single, larger building.[56]

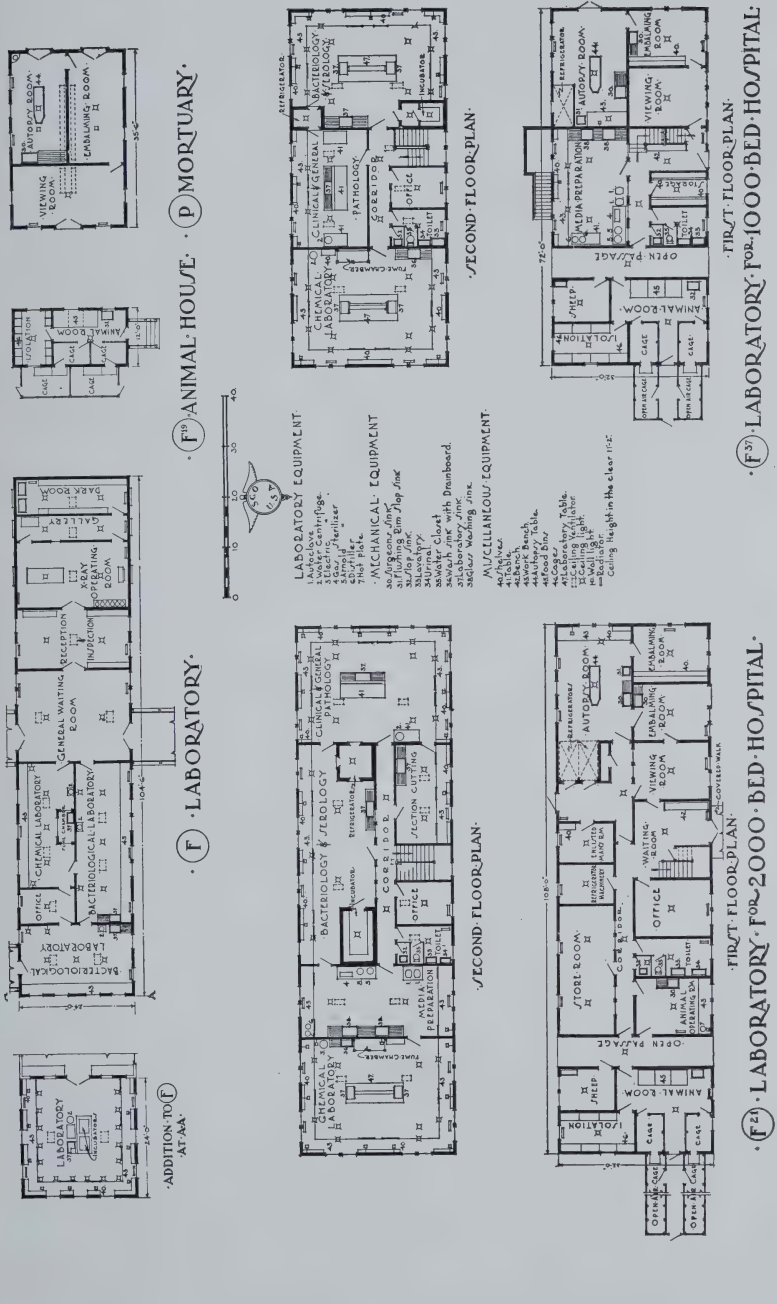

·F·LABORATORY·
·ADDITION·TO F ·AT·AA·
·F19·ANIMAL·HOUSE· ·P·MORTUARY·
·SECOND·FLOOR·PLAN·
·FIRST·FLOOR·PLAN·
·F21·LABORATORY·FOR 2000·BED·HOSPITAL·
·F37·LABORATORY·FOR 1000·BED·HOSPITAL·
LABORATORY EQUIPMENT·
1.Autoclave
2.Water Centrifuge.
3.Electric Sterilizer
4.Gas "
5.Arnold "
6.Distiller
7.Hot plate.
·MECHANICAL· EQUIPMENT
30.Surgeons Sink
31.Flushing Rim Slop Sink
32.Slop Sink.
33.Lavatory.
34.Urinal.
35.Water Closet
36.Wash sink with Drainboard.
37.Laboratory Sink.
38.Glass Washing Sink.
MISCELLANEOUS·EQUIPMENT·
40.Shelves.
41.Table.
42.Bench.
43.Work Bench.
44.Autopsy Table.
45.Food Bins
46.Cages
47.Laboratory Table.
Ceiling Ventilator.
Ceiling light.
Wall light.
Radiator.
Ceiling Height in the clear 11'-2".
0 10 20 30 40
S.G.O. U.S.A.
CHEMICAL LABORATORY
BACTERIOLOGICAL LABORATORY
GENERAL WAITING ROOM
RECEPTION INSPECTION
X-RAY OPERATING ROOM
GALLERY
DARK ROOM
OFFICE
VIEWING ROOM
AUTOPSY ROOM
EMBALMING ROOM
ANIMAL ROOM
ISOLATION
CAGE
SHEEP
OPEN AIR CAGE
OPEN PASSAGE
MEDIA PREPARATION
CORRIDOR
TOILET
PATHOLOGY
CLINICAL & GENERAL PATHOLOGY
BACTERIOLOGY & SEROLOGY
SECTION CUTTING
STORE ROOM
WAITING ROOM
ENLISTED MANS RM
REFRIGERATOR MACHINERY
ANIMAL OPERATING RM
COVERED WALK
FUME CHAMBER
INCUBATOR
REFRIGERATOR
104'-6"
108'-0"
72'-0"
35'-6"
24'-0"
32'-0"
12'-0"

FIG. 29.

The surgical building.—The original surgical building (G) for the National Army and National Guard hospitals, and the addition which was made later, are also shown in Figure 30. In the later plans an effort at consolidation was made; recovery and conference rooms were provided where possible, and additional fixed equipment installed. The consolidation referred to grouped the X-ray, eye, ear, nose, throat, and dental work in the same building with the general surgery. This consolidation would not have been possible but for the use of more fire-resisting material permitting larger buildings. A combined surgical department for a 1,000-bed hospital is shown in Figure 31 (G–8), and for a 2,000-bed hospital in Figure 32 (G–12, p. 80). In general terms, under the con-

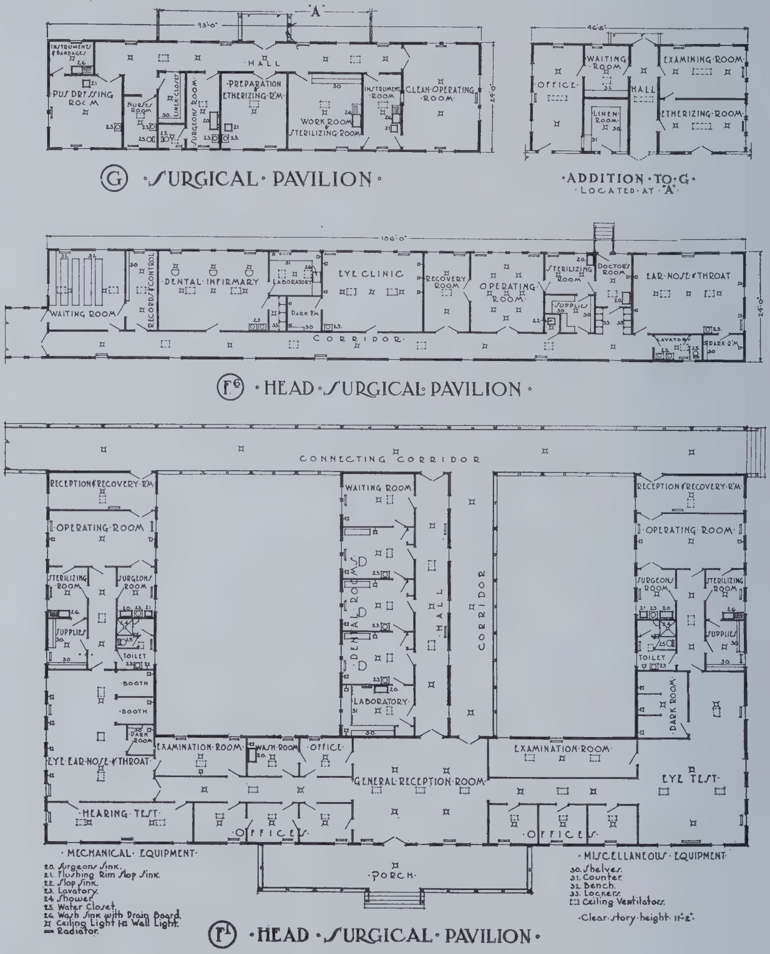


FIG. 30.

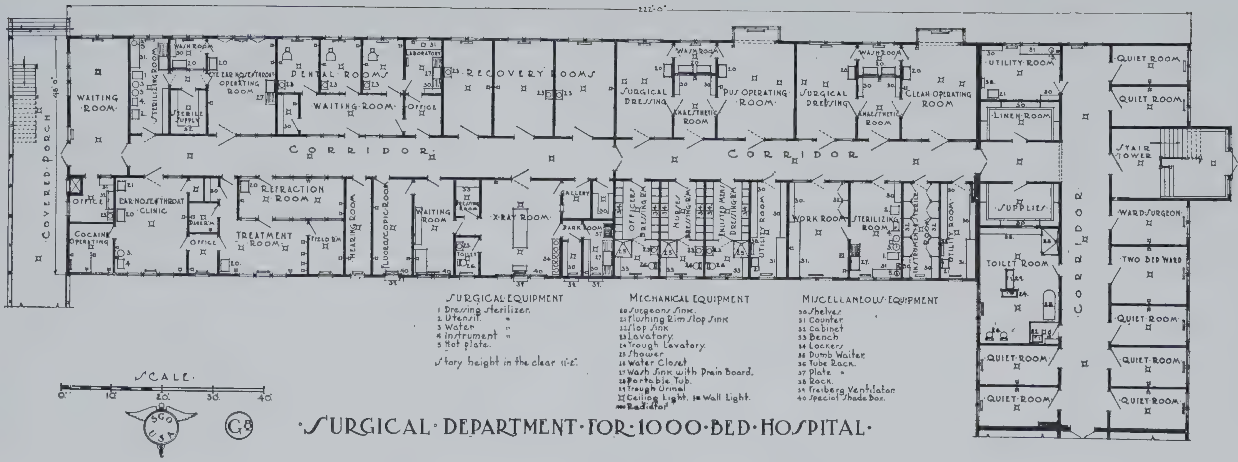
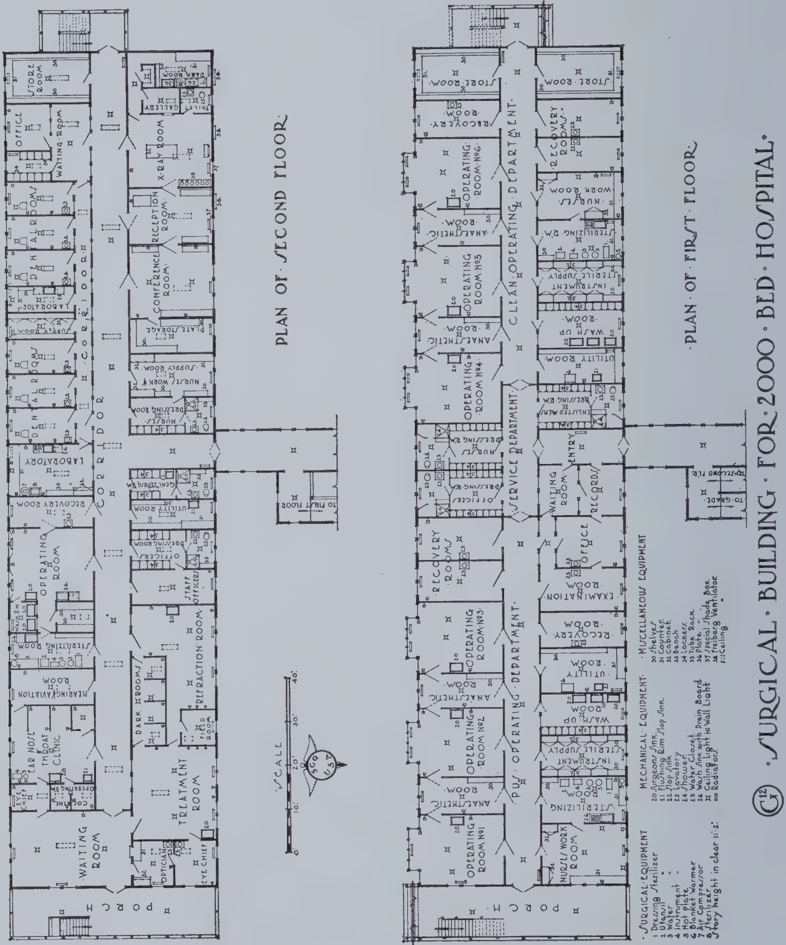

·SURGICAL·DEPARTMENT·FOR·1000·BED·HOSPITAL·
222'-0"
48'-0"
COVERED·PORCH
WAITING·ROOM
STERILIZING ROOM
STERILE SUPPLY
WASH ROOM
EYE EAR NOSE & THROAT OPERATING ROOM
DENTAL ROOMS
WAITING·ROOM
OFFICE
LABORATORY
RECOVERY ROOMS
SURGICAL DRESSING
WASH ROOM
ANAESTHETIC ROOM
PUS OPERATING ROOM
CLEAN·OPERATING ROOM
UTILITY·ROOM
LINEN·ROOM
SUPPLIES
TOILET ROOM
QUIET·ROOM
STAIR TOWER
WARD·SURGEON
TWO BED WARD
CORRIDOR
OFFICE
COCAINE OPERATING
EAR·NOSE & THROAT CLINIC
DARK R'M
REFRACTION ROOM
TREATMENT ROOM
FIELD R'M
HEARING ROOM
FLUOROSCOPIC·ROOM
WAITING ROOM
DRESSING ROOM
TOILET
X-RAY ROOM
GALLERY
DARK ROOM
OFFICERS DRESSING R'M
NURSES DRESSING R'M
ENLISTED MEN'S DRESSING R'M
UTILITY ROOM
WORK ROOM
STERILIZING ROOM
INSTRUMENT & STERILE ROOM
SURGICAL·EQUIPMENT
1 Dressing Sterilizer.
2 Utensil. "
3 Water "
4 Instrument "
5 Hot plate.
Story height in the clear 11'-2".
MECHANICAL EQUIPMENT
20 Surgeons Sink.
21 Flushing Rim Slop Sink
22 Slop Sink
23 Lavatory.
24 Trough Lavatory.
25 Shower
26 Water Closet
27 Wash Sink with Drain Board.
28 Portable Tub.
29 Trough Urinal
¤ Ceiling Light. Wall Light.
Radiator
MISCELLANEOUS·EQUIPMENT
30 Shelves
31 Counter
32 Cabinet
33 Bench
34 Lockers
35 Dumb Waiter.
36 Tube Rack.
37 Plate "
38 Rack.
39 Freiberg Ventilator.
40 Special Shade Box.
SCALE·
0' 10' 20' 30' 40'
SGO USA
G8

FIG. 31.

solidation effected in these activities, two large buildings permitted the accomplishment of the work formerly done in five small ones.

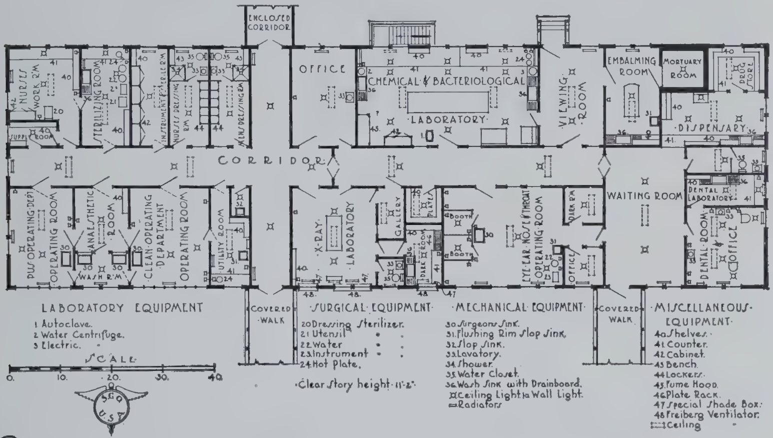
All of the above surgical and laboratory activities for a small hospital were consolidated,[57] late in the war period, in a single building (G–103, Figure 32). In addition, a dispensary was included, but no special provision was made in the building for the few animals required at such a small hospital.



SURGICAL · BUILDING · FOR 2000 · BED · HOSPITAL.

FIG. 32.

Physical reconstruction buildings.—The special buildings for physical reconstruction comprised curative workshop buildings, school buildings, and physiotherapy buildings. Effort was made to house physical reconstruction activities in new buildings, constructed according to prepared plans.[58] Comparatively few of them were constructed. The majority of the general hospitals were being installed in buildings already existing; and as the other activities of the hospital, such as surgery, laboratory, wards, etc., were being provided for by alteration in existing buildings, this specialty was finally provided for in the same manner.[59] The construction of new buildings for physical reconstruction was not authorized by the Secretary of War except in some of the early general hospitals.[60] Figure 34 (S) (p. 82) shows an early plan for a physiotherapy building.



G 103 SURGICAL & LABORATORY PAVILION FOR 300 BED HOSPITAL

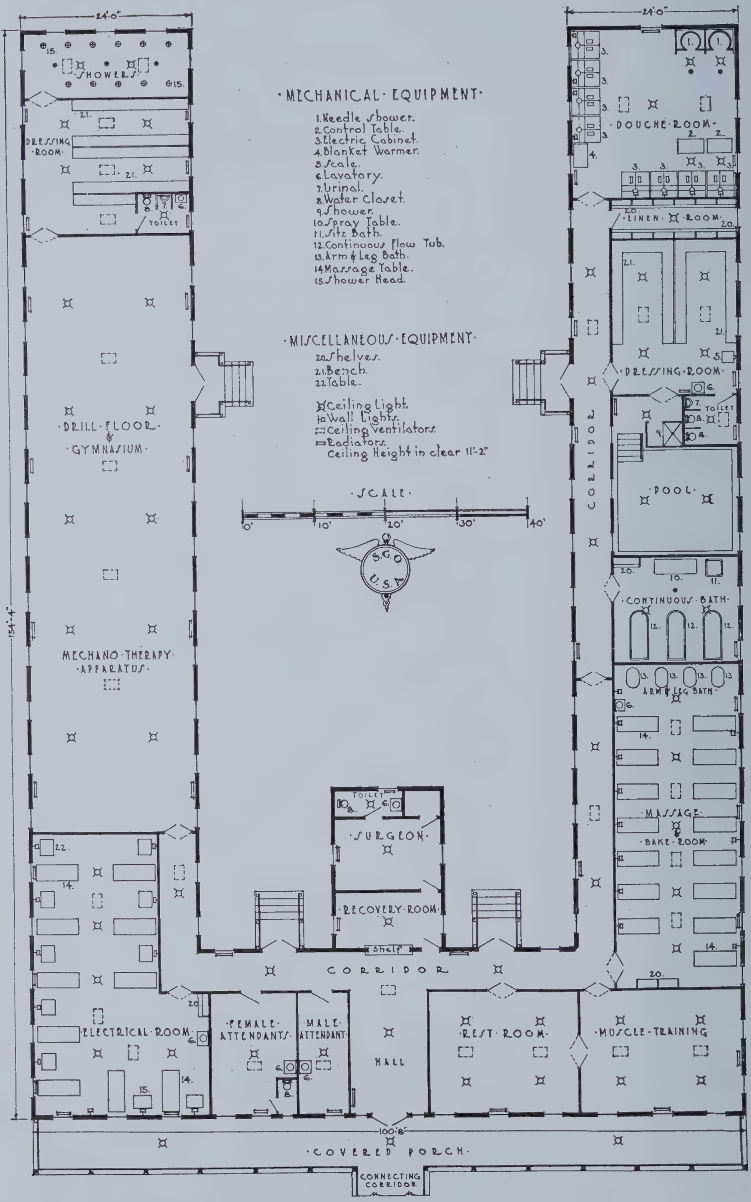
FIG. 33.

CLASS IV. FOR FOOD, HOUSING, SUPPLIES.

Cooking and messing facilities.—The vital character of the cooking and messing facilities was appreciated from the beginning. The development of the designs for buildings for these purposes was, therefore, given the closest attention. The patients' mess in the early design included rooms for the storage, preparation, cooking, and serving of the food for patients only, there being decentralized kitchens and messes for officer patients, as well as for medical officers, nurses, and the detachment, Medical Department.[61] In the later designs, and especially in smaller hospitals, the food was cooked for nearly the entire hospital in the general kitchen building. There were, however, separate mess halls for the groups for which cooking was separately done formerly.

The elements concerned in the preparation and serving of food, were: In the kitchen, storage, preparation of the food for cooking, and cooking; in the mess, direct service in the mess hall and food service to wards, and the scullery.

There were really three marked developmental designs for the general mess hall and kitchen. The first is represented by the plan designated by the letter I–1, the second, a transitional stage, by two plans, I–11 for a relatively small,[62] and I–12 for a relatively large hospital;[63] and the third, or latest type,



Ⓢ PHYSICAL·THERAPY·BUILDING

FIG. 34.

by I–34 for a 500-bed hospital [64] and I–39, I–42 or I–43, and O–12 for the three buildings, kitchen, mess and preparation building, respectively, for a hospital of 2,000 beds.[65] The numbers of all three types constructed were as follows: [66]

Type.	Plan.	Number built.
Early type	I	49
Transitional type:		
Small size	I–11	4
Large size	I–12	5
Latest type:		
Small size	I–34	4
Large size	I–39 (kitchen)	1
Do	I–42 (mess)	1
Do	I–43 (mess)	2
Do	O–12 (preparation building)	1

Figure 35 shows the early type, I, constructed as a part of all of the large camp hospitals built during the first summer of the war, including all National Guard and National Army hospitals, as well as many others.[67] When the capacity of the hospital became overtaxed, the refrigeration space, which was found to be inadequate, was generally increased.[68] A third long table was added through the length of the mess hall; and often the food cart room was used for storage and office space, the food carts being kept in the corridors when not in use. Cement floors [a] was laid in many kitchens to replace one of wood.[69] With these exceptions, however, this building and its equipment withstood usage remarkably well. In construction there was little difference in these early kitchens from any of the other hospital buildings. The materials used were the same as those used in the wards; the length of the bay, the porches, the ridge ventilator, the sash size, all were built from the same detail sheet as that sent out for the wards. The plan shows the arrangement of the elements and their equipment.

Ambulatory patients, figured at about 60 per cent of the total patients, were provided for in the mess hall by the system of serving them then in vogue in Army hospitals, called "set up service," i. e., dishes and food were placed upon the tables in preparation for the arrival of the patients; the patients arrived at a given hour, ate, and left the mess hall. Tables were then cleared by attendants and clean dishes placed for the next meal, or for the next sitting of the same meal, if, as was more frequently the case, there were more ambulatory patients than seats in the mess hall. Food for bed patients, figured at 40 per cent, was cooked in the main kitchen and in the diet kitchen, under the supervision of the dietitian. Food was then placed in the food carts which were rolled to the several ward diet kitchens, whence it was served under the direction of the ward nurse.

In January, 1918, the first variation from the plan I was made, taking advantage of the experience gained from the many camp and cantonment hospitals that had by that time been in operation for several months.[70] In a few steps there was developed the transitional type of general mess, represented by the plans (I–11 and I–12), for a small and a large hospital, respectively.[71] The restriction to the 24-foot width was discontinued.[72] This was the inevitable

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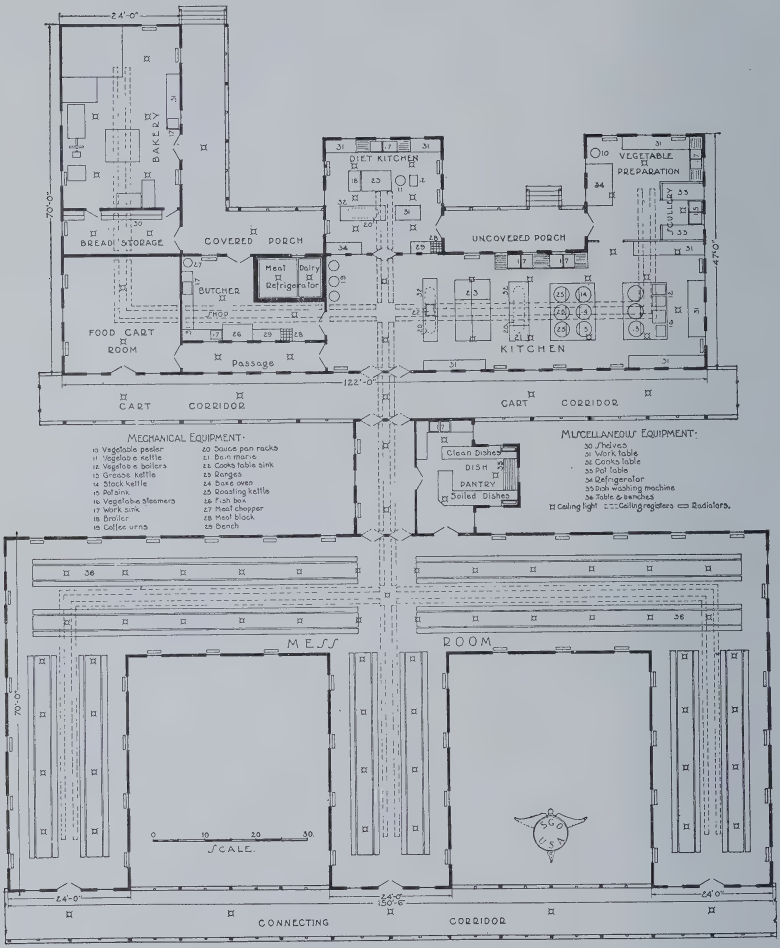
[a] Cement floors had been intended primarily, but through some error wood floors were originally laid in most camp hospitals.



MESS & KITCHEN - ① -

FIG. 35.

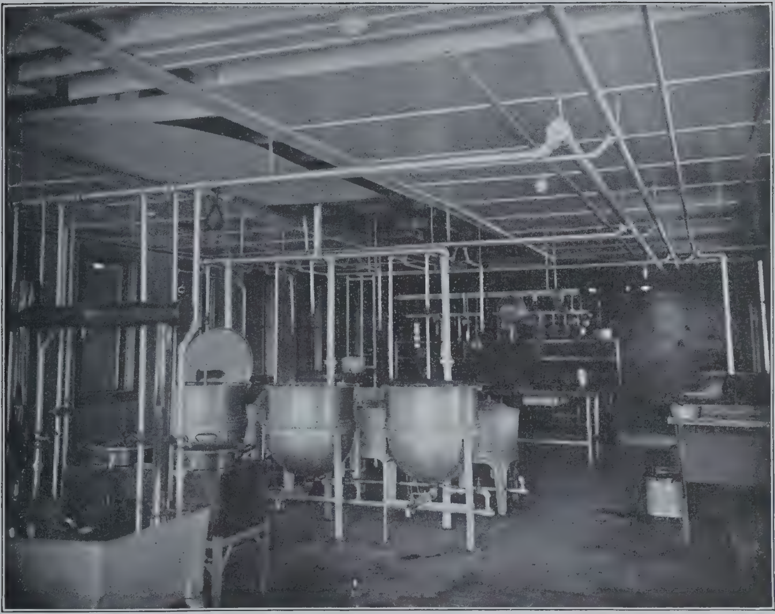


FIG. 36.—Interior of a base hospital general kitchen.

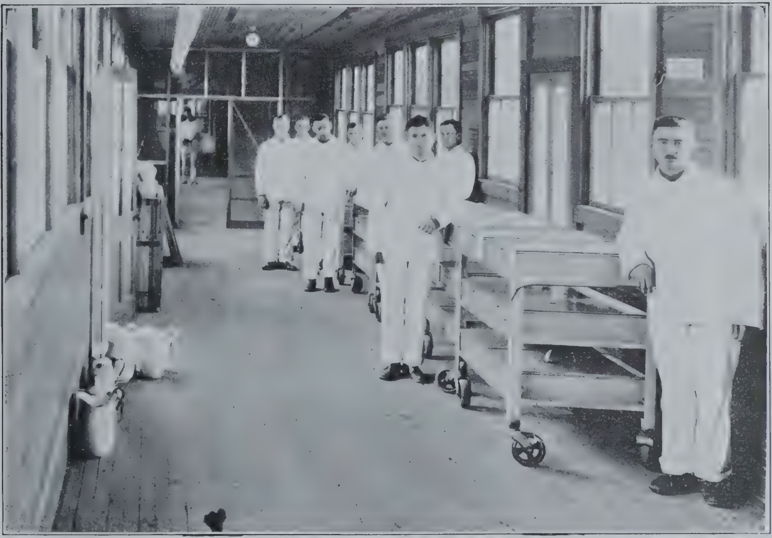


FIG. 37.—Corridor adjacent to patients' mess, showing equipment for transporting prepared food to wards.

result of the decision to give up the E-shaped plan in favor of the rectangular building, which was more adaptable to an uneven terrain, and more economically constructed.[13]

A comparision of the perimeters and areas of plans I, I–11, and I–12 (Figs. 35, 38, and 39) is as follows:

Building.	Total exterior wall of mess and kitchen.	Area of mess and kitchen.	Floor area per foot of outside wall.
			Square feet.
I	1,190	12,500	10
I–11	430	6,840	15
I–12	790	16,400	21

The I–11 building was planned for the use of both patients and attendants, and it had a cafeteria arrangement. The set-up manner of feeding, an old custom in the Army, had become an unwieldy method of feeding a really large number of men. The cafeteria system was made effective to overcome the necessity of greatly increasing the seating capacity of the mess halls, or the alternative of having successive sittings for the same meal. When intelligently operated, it had the following advantages: Hot food, faster service, less waste, operable with fewer mess hall attendants, greater flexibility—adaptability to sudden increase or decrease in the number to be fed—greater construction economy, economy in dishes, etc.

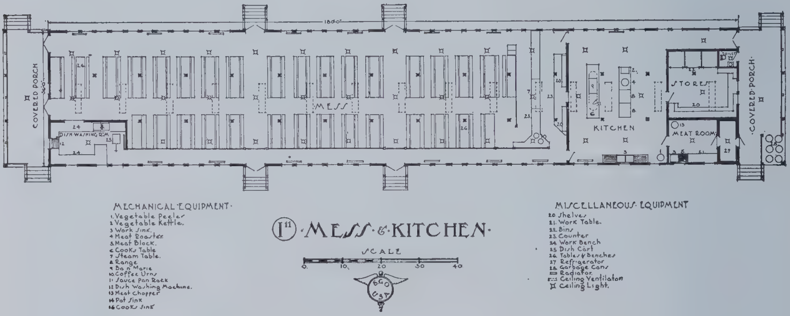


FIG. 38.

The large general mess and kitchen of the transitional type (I–12), capable of feeding 2,000 men, shows a rectangular kitchen 36 feet wide, directly attached to a mess hall, six 12-foot bays wide, divided into two cafeteria units. The kitchen in construction was similar to I–11. The mess hall was a larger building consisting of a central nave of a 24-foot span with two 12-foot bays on either side. Close window spacing and a monitor provided sufficient light for this wider building. There was no ceiling over the main kitchen, scullery, and grocery storeroom.

The I–12 plan should be compared with I. It was designed to meet similar requirements. Each of the two large elements, the kitchen and the mess, became simple rectangles. The kitchen was designed to keep orderlies, mess hall attendants, and food carts out of the cooking and preparation rooms, all serving being done over a counter. Access from the mess service corridor to all of the various rooms was obtainable without passing through the kitchen proper. A continuous service platform, in the rear of the kitchen, gave access to all of the rooms. This platform was left uncovered to afford the maximum of daylight throughout the kitchen.

Directly abutting the kitchen building were the two cafeteria service rooms, each serving a unit similar to that of I–11.

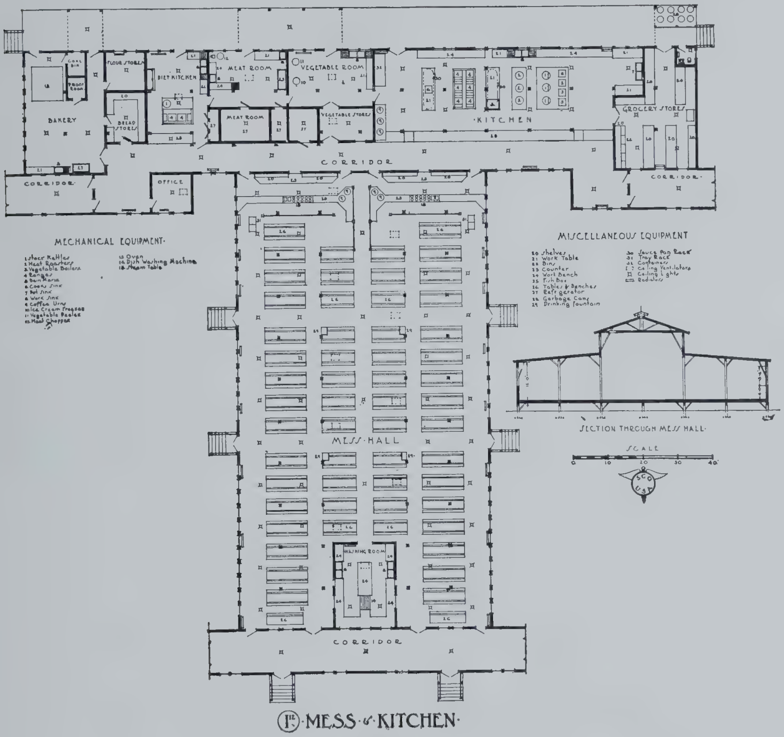


Fig. 39.

During the summer of 1918, plans for the third and latest type of kitchen and mess were developed.[72] The smaller of the two representative buildings of this latest type, I–34 (Fig. 40), was designed for use either as the general mess and kitchen for a 500-bed hospital or as a mess and kitchen for the medical detachment of a very large hospital.[73] It was really a sequel to I–11 with a double mess hall to make it more flexible in its usage. Because of the fire risk and the vital character of this service, buildings of this type were made of metal lath and stucco instead of the wood siding previously used; otherwise, the construction was similar. The washing room directly adjoined the cafeteria counters, thus eliminating the transportation of clean dishes, which had been found quite a burden in buildings I–11 and I–12. A monitor roof, over the serving and dish washing rooms, provided an extra amount of light and ventilation for that busy portion of the mess hall. All other sections of the building were provided with metal ridge ventilators.

The elements covered in the planning of the food preparing and mess buildings were storing, preparing, cooking, serving, eating, and dish washing. It was necessary to depart from the ideal, direct contact arrangement of these elements in the feeding of large numbers of men in the military hospitals.[74] Variations and departures have been shown in the different buildings already referred to. In the feeding of a still larger number, what were planned for and secured were: A kitchen separate from, though closely connected with, its storage and preparation facilities, and a dining room with its service and dish-washing arrangements in the portion proximal to the kitchen. This typical large general mess and kitchen consisted of three buildings: Preparation building (O–12), kitchen (I–39), and double mess hall (I–43) shown in Figure 41. This group was planned to take care of the patients and the Medical Department detachment for a hospital of 2,000 beds.

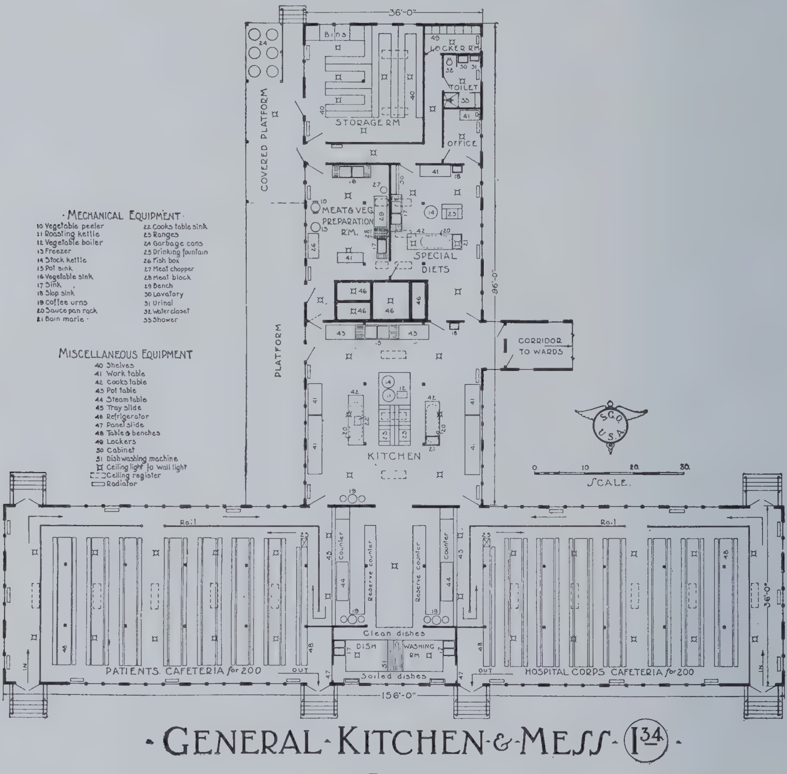
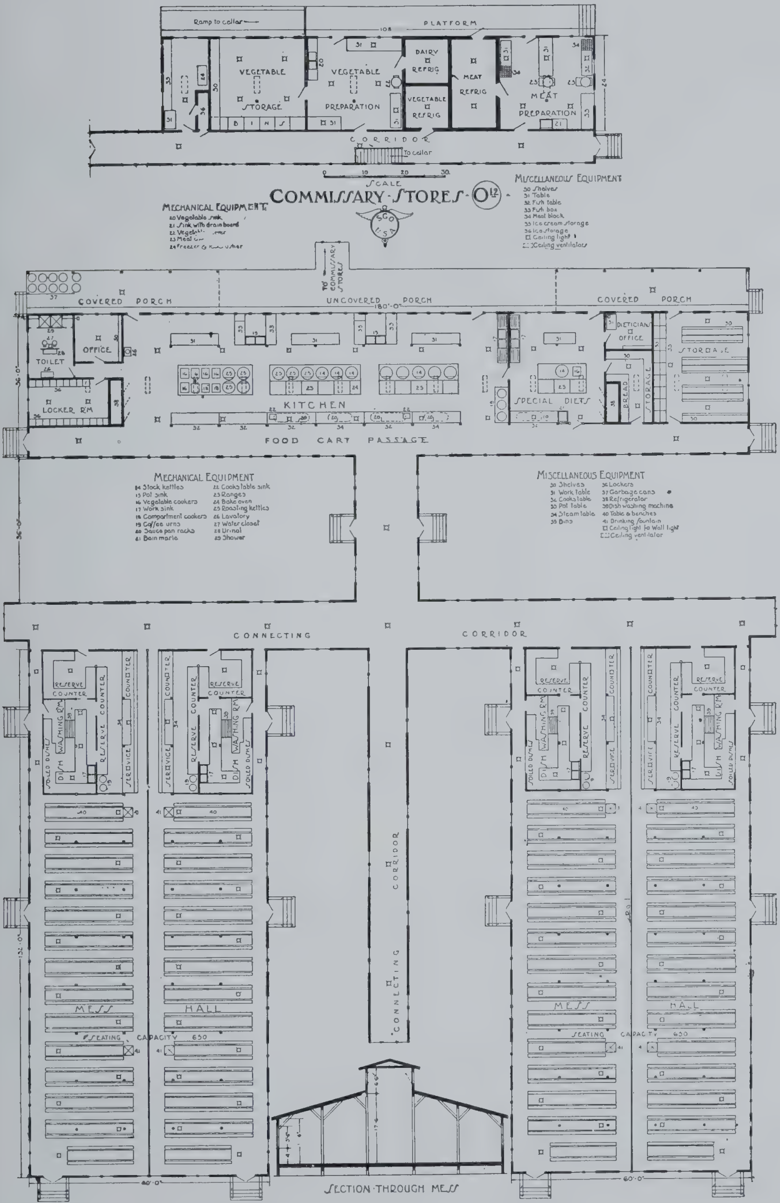


Fig. 40.



·MESS·(143)·&·KITCHEN·(139)·

FIG. 41.

The buildings were of metal lath and plaster on wood-frame construction with a plaster-board lining, the joints plaster filled. The commissary stores building (O–12) was a simple building, 32 feet wide, with a cellar in which were a 5-ton refrigerating plant and storage rooms. The first floor was used for vegetable storage, a dairy, vegetable and meat refrigeration, and meat and vegetable preparation. An inclosed corridor connected it with the cooking building. The I–39 kitchen contained the cooking facilities for all regular and special diets. It was but slightly modified in construction from its predecessor, I–12, by the division of its width, 36 feet, into unequal bays, the center bay being 20 feet across in order that there might be a wide aisle for the cooking equipment. The kettles and ranges were located in a double, back-to-back line running lengthwise with the building, the ranges facing the foot cart corridor. It will be noticed that it was possible by this arrangement for the cooks' tables, opposite the ranges, to operate as a serving counter at meal times. The I–43 mess hall was five 12-foot bays wide, the center bay running the length as a monitor. It contained two cafeteria units with the dish-washing room adjoining the serving counters. This type of mess hall caused both patients from the wards and food from the kitchen to enter at the head of the mess hall. It effected a considerable saving of aisle travel and, while it entailed a crossing of the food line through the incoming patient line, this intermittent occurrence was not found to affect seriously the messing operation.[13] Near, and in constant communication with, the kitchen was the reserve counter of the cafeteria serving room. It provided a working counter for any final preparation, make-up, or dishing out. It also provided counter and shelf area on which reserve supplies of food and dishes could be stocked from the outside and kept there. In front of the reserve counter, and at a distance no greater than that required by two men working opposite one another at the two counters, was the serving counter. In all standard designs for serving counters an effort was made to use 30 feet as a minimum length and 35 whenever possible. In the middle of the length was placed the steam table with food containers varying in number, depending upon the number to be fed and the distance from the kitchen. These containers were adequately high to obviate excessive stooping of those constantly working over them. Just in front of the row of containers and on a level with the main serving counter was a display shelf on which the food servers placed the plates of hot food as rapidly as they could and from which the patient could help himself as he passed by. A tray slide, slightly lower than the serving counter and display shelf, ran the length; and just near enough to make passing possible was a rail of sufficient height to make it uninviting and undesirable as a seat.

In the operation and the detailed arrangement of the cafeteria, there was considerable variation due to the different needs of the hospitals and to the diverse ideas of the mess officer. Very broadly speaking, however, it was similar to the usual public cafeteria.

In the planning of a cafeteria mess hall three closely related factors were considered:[13] The rate of serving, the average length of time a patient devoted to eating his meal, and the required seating capacity of the tables. It was found that the serving of 20 men per minute was entirely practicable; a man would seldom stay more than 10, never more than 15 minutes at mess; and, by a computation from these two facts, that from 300 to 325 seats were sufficient to keep a single serving counter unit in smooth, continuous operation.[13]

To permit the simplification of the service, a great deal of the equipment was later made interchangeable.[13] In the later designs for cafeterias in leased buildings, the containers that fitted into the steam tables were all of a uniform

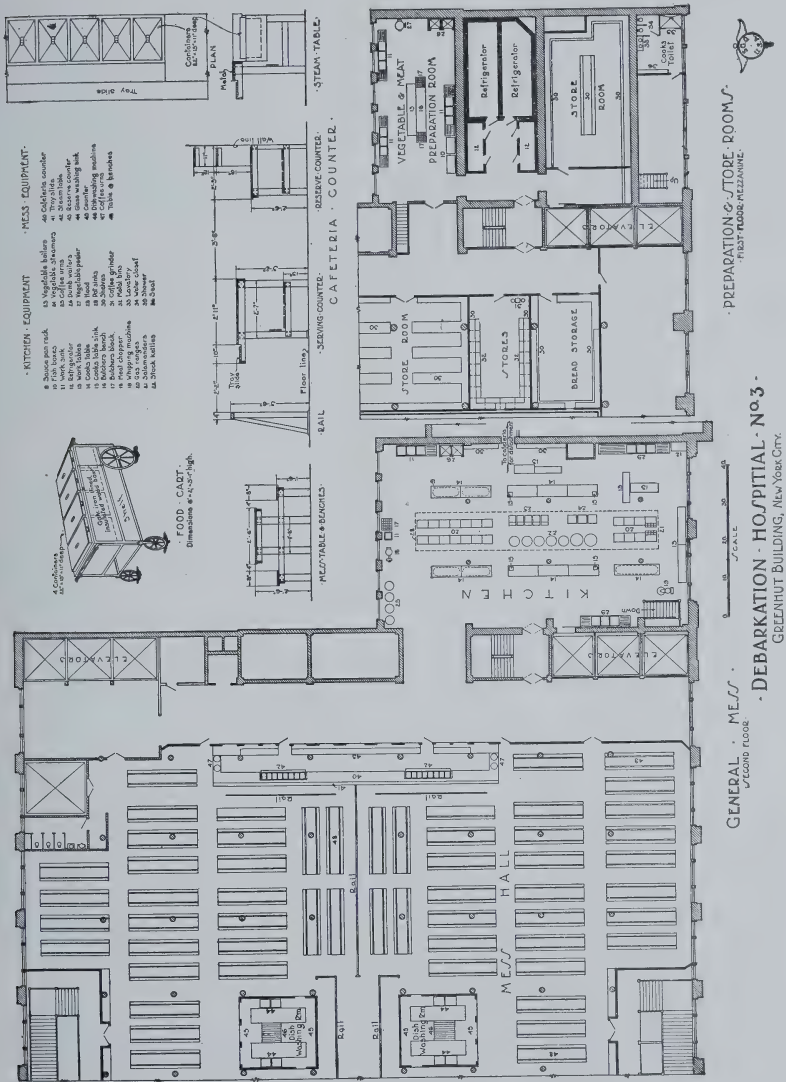


FIG. 42.—Cafeteria equipment.

size, 15 by 12 inches by 11 inches deep. It was found that four of these containers held sufficient dinner (the largest meal) for 160 men.[13] The containers were partitioned and designated for use as follows:[13] Container No. 1, undivided, for soup; container No. 2, undivided, for potatoes; container No. 3, divided in center, one-half for meat and one-half for gravy; container No. 4, divided at third point, two-thirds for second vegetable, one-third for dessert. The same containers were used in the ward service food carts, and the same ward service food carts were used in the main mess hall in serving patients who were not quite active enough to serve themselves at a cafeteria. The food cart held the four containers set side to side and into an insulated box, making the dimensions of the cart 2 by 6 feet by 3 feet high. A shelf, underneath the main box, was so placed to hold extra containers. Dish trucks, the necessity for which was minimized by having the cafeteria patients carry their own dishes to the dish-washing room, were built on a framework identical with that of the food carts. Thus the food distribution equipment was made simple, flexible, and interchangeable.

Simplification was also accomplished in the cooking and the cafeteria serving. Based on experience in temporary hospitals, the fixed equipment of the main kitchen, diet kitchen, and cafeteria was standardized, and a schedule of standard equipment was prepared by the Surgeon General's Office and the Construction Division.[75] This schedule had about 60 items of equipment and gave the steam, water, and electric connections required, the floor space occupied, and the number and size of each item appropriate for hospital messes ranging in capacity from 25 to 5,000.

The problem of installing mess halls and kitchens in the leased buildings which were altered for hospital use was a very indefinite and variable one. Usually the feeding system was the fundamental factor of the entire assignment of space.[75] Sometimes there already existed an adequate kitchen and mess hall, as in the cases of some of the institutions and hotels that were leased. At other times, there would be a fair-sized kitchen that needed only some additional equipment. Then again, there were absolutely no facilities in a building, and the possibilities of each floor, from the basement to the roof, demanded consideration.[76]

Housing.—In our hospitals three classes of duty personnel were provided for: Officers, nurses, and enlisted men of the Medical Department.[77] However, before the war was over a half dozen other classes, male and female, had been added to the operating personnel of the larger hospitals. In the beginning this housing included some recreational facilities.[78] Soon the American Red Cross took over the housing of the recreational facilities for the nurses,[79] and the Young Men's Christian Association, Knights of Columbus, Jewish Welfare Board, and others, provided facilities for recreation for the enlisted personnel.[80] The officers' quarters were frame buildings, like others in the hospital, provided with a kitchen and mess hall and one room for each officer.[81] Each hospital had in addition a small staff officers' building of four rooms for the commanding officer and his staff.[82] The nurses' quarters were similar to those for the officers, containing a kitchen and mess hall; but part of the nurses only were provided for in separate rooms and the remainder had dormitory space.[83] The dormitory was unpopular and in later construction a room was provided for each nurse.[84] The enlisted men of the Medical Department were provided for in simple barracks parallel to each other, each building having two or three small rooms for noncommissioned officers.[78] The kitchen and mess hall occupied usually a separate building in the middle of the group.[82] Where the hospital was small, a separate kitchen and mess building was not built.

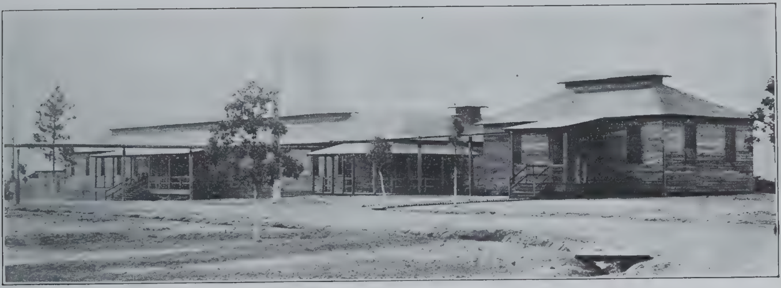


FIG. 43.—Officers' quarters.

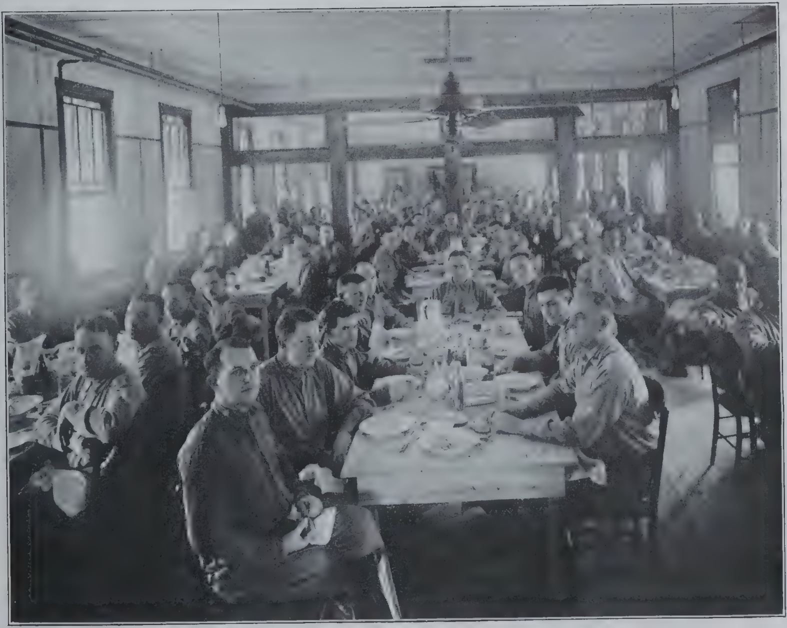


FIG. 44.—Officers' dining room.

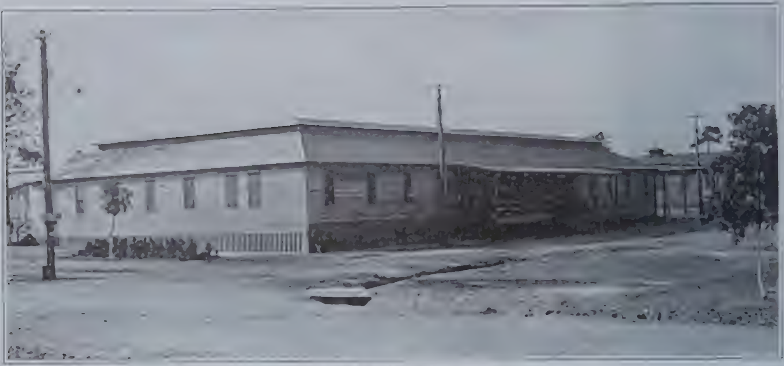


Fig. 45.—Nurses' quarters.

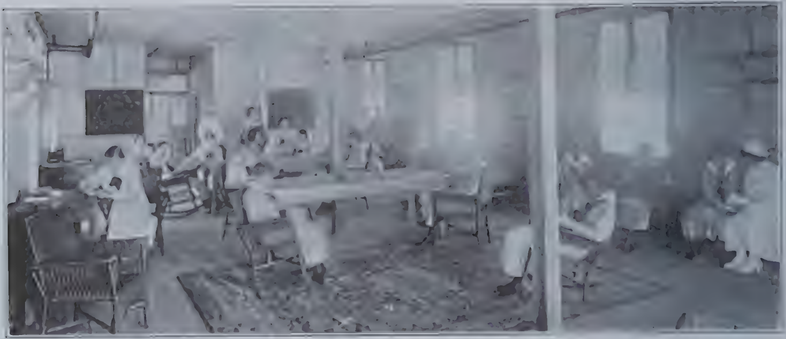


Fig. 46.—Living room, nurses' quarters.

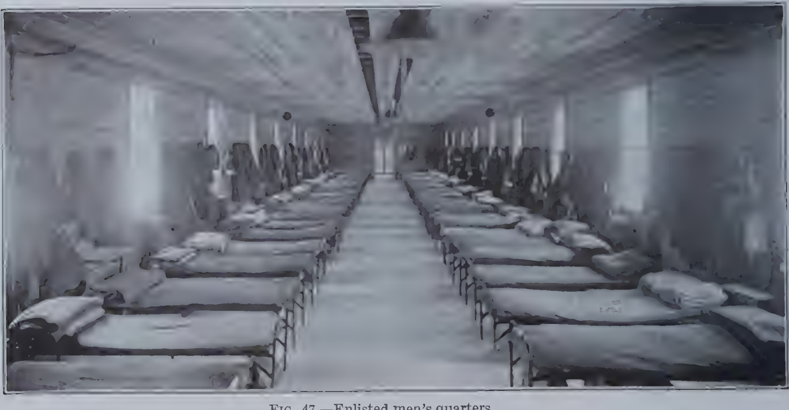


Fig. 47.—Enlisted men's quarters.

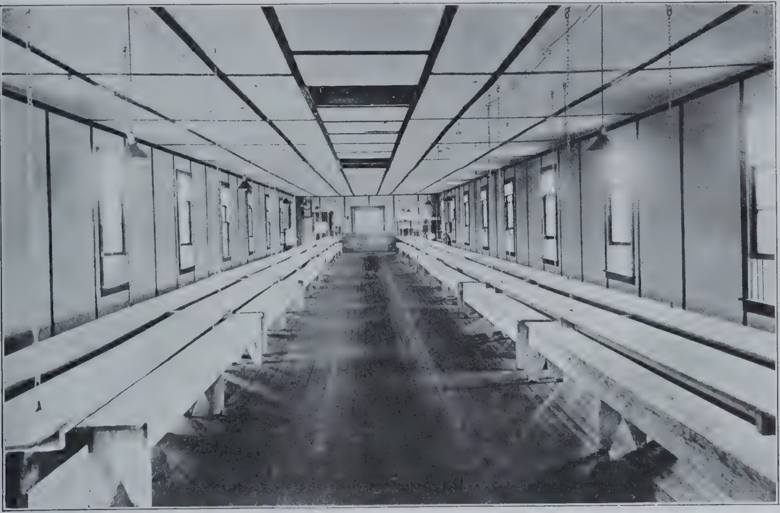


FIG. 48.—Enlisted men's mess hall

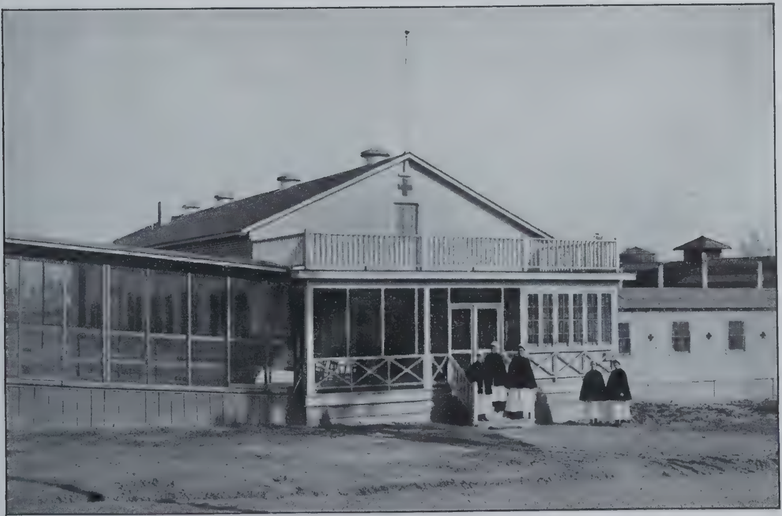


FIG. 49.—Typical Red Cross recreation house for nurses.

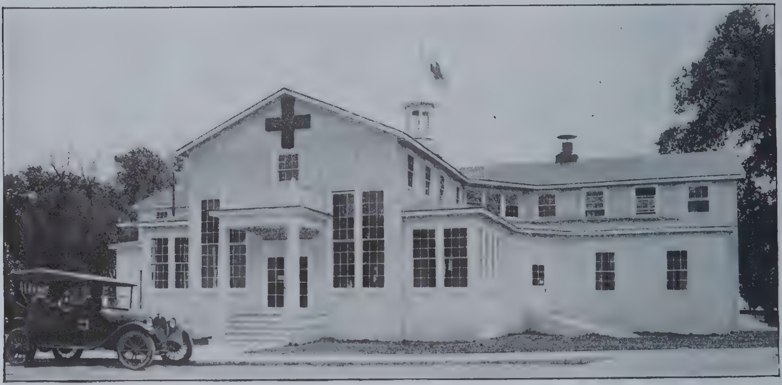


FIG. 50.—Typical Red Cross convalescent house

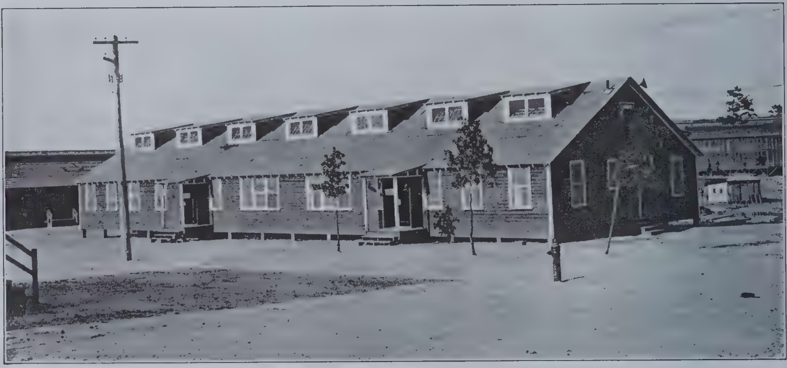


FIG. 51.—Typical Young Men's Christian Association hut.

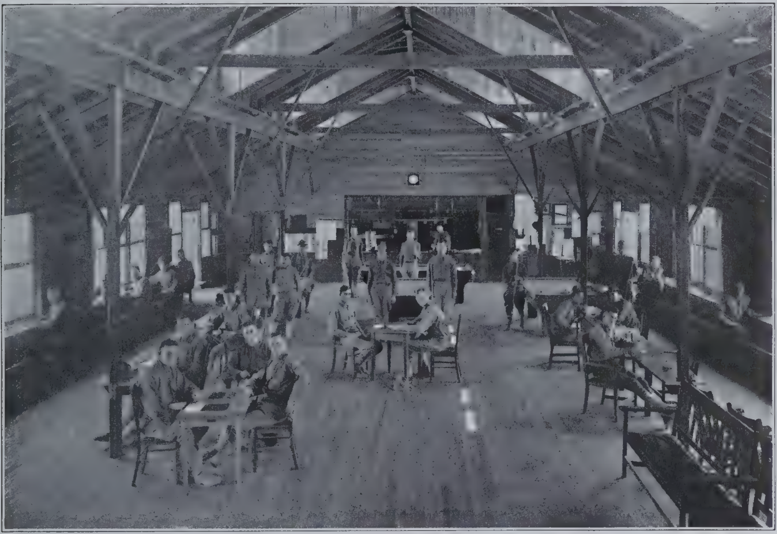


FIG. 52.—Interior of Young Men's Christian Association hut.

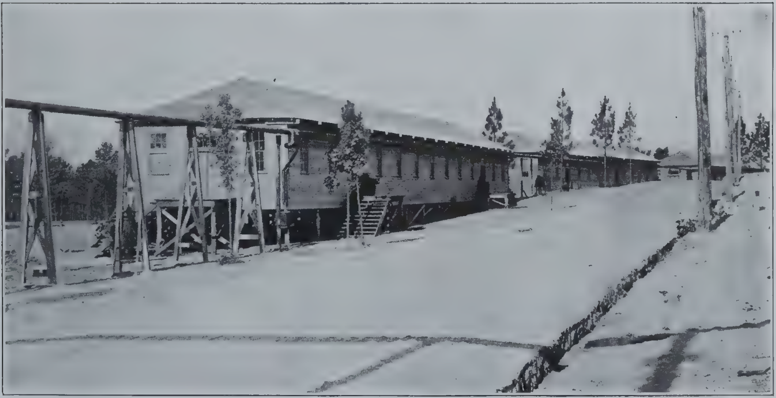


FIG. 53.—Typical medical supply buildings.

Supply buildings.—The supply buildings were simple storehouses with a few separate rooms.[85] They contained appropriate shelving for the orderly handling of small articles, and counters and loading platforms required for reception and issue work for the hospital, or for both the hospital and the camp if necessary.

CLASS V. FOR UTILITIES AND PHYSICAL OPERATION.

The following additional buildings were mainly used for utilities and the operation of the hospitals:[77] Power house, shop, laundry, garage, fire house, and dry cleaning (rarely). Laundries were planned for the hospitals of National Army cantonments and National Guard camps.[77] The buildings were constructed, but were not equipped;[86] so the hospital laundry was done either by

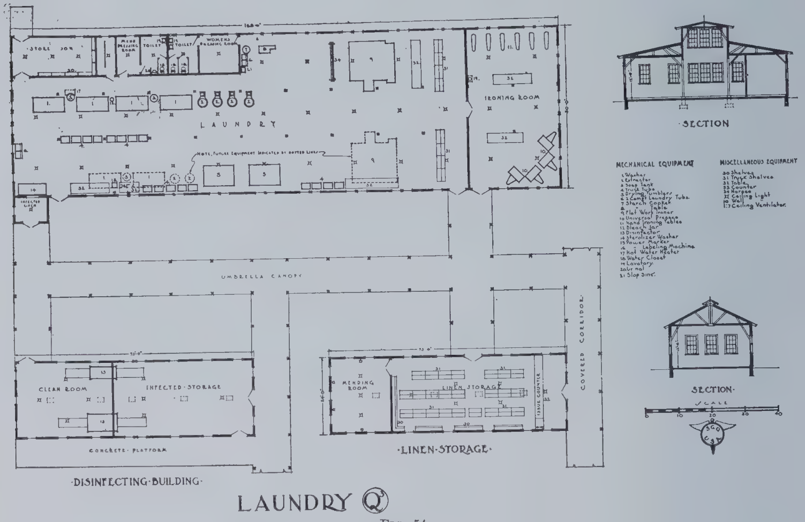


FIG. 54

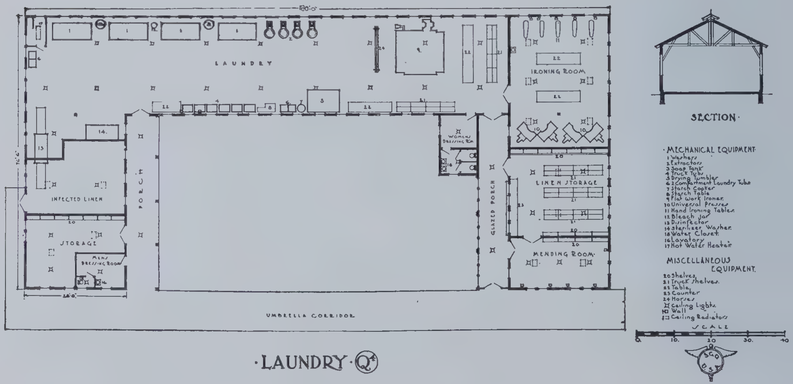


FIG. 55.

civilian laundries or by that operated by the quartermaster of the camp.[87] At Debarkation Hospital No. 2, Fox Hills, Staten Island, N. Y., a modification of the original laundry plan was used for the construction of a laundry;[88] and later, after this hospital had been built, a still further modified plan was used for laundries constructed at some of the tuberculosis hospitals and at a few large general hospitals which were isolated.[89] These utility buildings were not closely connected with the care of the sick and in none of them were there such distinct changes in plans as occurred in the wards, the mess buildings, and the surgical pavilion, where the mushroom growth of military activity led from one readjustment to another. The early type garage constructed was changed to a wider, more economical type of greater capacity.[90]

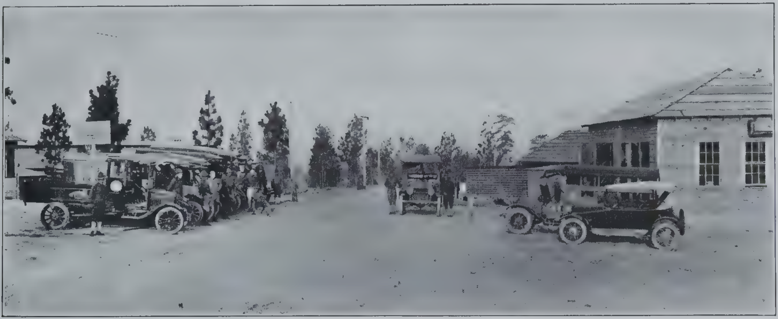


FIG. 56 —Garage and cars at a base hospital

REFERENCES.

(1) Block plan A. On file, Hospital Division, S. G. O.
(2) Block plan B. On file, Hospital Division, S. G. O.
(3) Block plan C. On file, Hospital Division, S. G. O.
(4) Block plan D. On file, Hospital Division, S. G. O.
(5) Block plan E. On file, Hospital Division, S. G. O.
(6) Letter from the Acting Surgeon General to the Chief of Staff, September 16, 1918. Subject: Hospital program. On file, Record Room, S. G. O., Correspondence File 632 (General).
(7) Construction plans, Camp Knox, Ky., Camp Jackson, S. C., and Camp Mills, Long Island. On file, Hospital Division, S. G. O.
(8) Letter from the Surgeon General to the Construction Division, War Department, September 5, 1918. Subject: Hospital construction, Camp Bragg, N. C. On file, Hospital Division, S. G. O. (Camp Bragg, N. C.)
(9) Plans of receiving buildings. On file, Hospital Division, S. G. O.
(10) Plan B–9. On file, Hospital Division, S. G. O.
(11) Plan J–3. On file, Hospital Division, S. G. O.
(12) Original plan for hospital construction. On file, Hospital Division, S. G. O.
(13) Statement from Maj. Floyd Kramer, M. C., April 12, 1922, to the Surgeon General. Subject: Hospital construction. On file, Record Room, S. G. O., Correspondence File 632–1.
(14) Plan K–25. On file, Hospital Division, S. G. O.
(15) Based on construction reports. On file, Hospital Division, S. G. O. (under camp).
(16) Plan K–105. On file, Hospital Division, S. G. O.
(17) Plan K–58. On file, Hospital Division, S. G. O.
(18) Letter from the Surgeon General to the Quartermaster General, July 5, 1917. Subject: Cantonment hospitals. On file, Record Room, S. G. O., Correspondence File 176796 (Old Files).

(19) Plan K–20. On file, Hospital Division, S. G. O.

(20) Plan L–1. On file, Hospital Division, S. G. O.

(21) Letter from the Surgeon General to the Quartermaster General, December 26, 1917. Subject: Hospital increase at National Army and National Guard base hospitals. On file, Record Room, S. G. O., Correspondence File 632–11 (General).

(22) Construction plans, Fort McHenry, Md. On file, Hospital Division, S. G. O.

(23) Camp hospitals of about 2,500 beds each, designed. Plans on file, Hospital Division, S. G. O.

(24) Memo. from Lieut. Col. Floyd Kramer, M. C., to Brig. Gen. Robert E. Noble, M. D., August 26, 1918. Subject: Hospital construction. On file, Record Room, S. G. O., Correspondence File 632 (General).

(25) Plans M and M–1. On file, Hospital Division, S. G. O.

(26) Plans M–3. On file, Hospital Division, S. G. O.

(27) Plan M–6. On file, Hospital Division, S. G. O.

(28) Plan R–2. On file, Hospital Division, S. G. O.

(29) Plan R–4. On file, Hospital Division, S. G. O.

(30) Based on plans of various wards. On file, Hospital Division, S. G. O

(31) Report of the Chief of Construction Division, W. D., 1919, 59.

(32) Letter from the Committee on Army Hospital Plans to the Assistant Secretary of War. November 24, 1918. Subject: Report of study of plans for Army Hospitals. On file, Record Room, S. G. O., Correspondence File 600.13 (Plans and Specifications).

(33) Letter from Chief of Construction Division, W. D., to the Surgeon General, October 23, 1918. Subject: Length of hospital buildings. On file, Record Room, S. G. O., Correspondence File 632 (General).

(34) Letter from the officer in charge, cantonment construction, to the Surgeon General, December 13, 1917. Subject: Glass for sash. On file, Hospital Division, S. G. O.

(35) Shown on detail plans of buildings. On file, Hospital Division, S. G. O.

(36) Second Annual Report of the Council of National Defense for the Fiscal Year Ended June 30, 1918. Government Printing Office, Washington. Page 171.

(37) Letter from the War Industries Board, Council of National Defense, to the Secretary of War. April 8, 1918. Subject: Proposed building of new hospitals by the War Department. On file, Record Room, S. G. O., Correspondence File 632 (General).

(38) Medical and Surgical History of the War of the Rebellion, part third, medical volume. Government Printing Office, Washington. Pages 934, 945, and 952.

(39) Plans K–34 and K–58. On file, Hospital Division, S. G. O.

(40) Memo. from Maj. C. W. Richardson, M. C., to Lieut. Col. E. P. Wolfe, M. C., December 17, 1917. Subject: Sterilizers. On file, Record Room, S. G. O., Correspondence File 414.4 (Sterilizers).

(41) Plan K–1. On file, Hospital Division, S. G. O.

(42) Plan K–34. On file, Hospital Division, S. G. O.

(43) Report on Study of Mess Conditions in Base Hospitals, by Capt. E. L. Scott, S. C., April 29, 1918. On file, Record Room, S. G. O., 720.1 (Food).

(44) Shown on first plans of wards of base hospitals. On file, Hospital Division, S. G. O.

(45) Letter from the Surgeon General to the Quartermaster General. January 9, 1918. Subject: Slop sinks. On file, Record Room, S. G. O., 652 (General).

(46) Shown on plans K–34, K–58, K–117. On file, Hospital Division, S. G. O.

(47) Letter from Chief of the Construction Division to the Surgeon General. March 18, 1918. Subject: Construction of laboratory additions at National Army base hospitals. On file, Record Room, S. G. O., 632–1 (General).

(48) Plans K$\frac{103}{1}$, K–$\frac{103}{2}$. On file, Hospital Division, S. G. O.

(49) Shown on block plan of General Hospital No. 8, Otisville, N. Y. On file, Hospital Division, S. G. O.

(50) Shown on plans of General Hospital No. 21, Denver, Colo. On file, Hospital Division, S. G. O.

(51) Plan K–107. On file, Hospital Division, S. G. O.

(52) Plan K–108. On file, Hospital Division, S. G. O.

(53) Plan F. On file, Hospital Division, S. G. O.

(54) Plan F–6. On file, Hospital Division, S. G. O.

(55) Plan F–1. On file, Hospital Division, S. G. O.

(56) Plan G–12. On file, Hospital Division, S. G. O.

(57) Plan G–103. On file, Hospital Division, S. G. O.

(58) Letter from the Surgeon General to the Construction Division, November 22, 1918. Subject: Buildings for physical reconstruction. On file, Record Room, S. G. O., 652 (General Hospitals) K.

(59) Letter from the Surgeon General to the Construction Division, December 21, 1918. Subject: Allotment of funds for alterations for physical reconstruction buildings. On file, Record Room, S. G. O., 632 (General).

(60) Letter from the Surgeon General to the Construction Division, November 22, 1918. Subject: Buildings for physical reconstruction. Indorsements thereon. On file, Hall of Records, Fort Myer, Va. (Cr. 652–B.).

(61) Plan I. On file, Hospital Division, S. G. O.

(62) Plan I–11. On file, Hospital Division, S. G. O.

(63) Plan I–12. On file, Hospital Division, S. G. O.

(64) Plan I–34. On file, Hospital Division, S. G. O.

(65) Plans I–39, I–42, I–43, O–12. On file, Hospital Division, S. G. O.

(66) Based on reports of authorization and construction from various hospitals. On file, Hospital Division, S. G. O.

(67) Construction reports (name of camp). On file, Hospital Division, S. G. O.

(68) Letter from the Chief of Construction Division to the Surgeon General, September 6, 1918. Subject: Allotment for refrigeration at base hospitals. On file, Hospital Division, S. G. O. (National Army General File, Misc.).

(69) Letter from the Surgeon General to the Quartermaster General, October 11, 1917. Subject: Concrete or composition floors for hospital kitchens. On file, Record Room, S. G. O., 633.3.

(70) Weekly report of construction branch, S. G. O., for week ending January 11, 1918. On file, Record Room, S. G. O., Weekly Report File (Hospitals).

(71) Plans I–11, I–12. On file, Hospital Division, S. G. O.

(72) Weekly report of construction branch, S. G. O., for week ending May 16, 1918. On file, Record Room, S. G. O., Weekly Report File (Hospitals).

(73) Plan I–34. On file, Hospital Division, S. G. O.

(74) "Report on Mess Administration," by Maj. R. G. Hoskins, S. C., October 22, 1918. On file, Record Room, S. G. O. Food and Nutrition File (Hospital Needs).

(75) Schedule of kitchen equipment. On file, Hospital Division, S. G. O. (Kitchen Equipment).

(76) Shown in floor plans of all buildings leased and used as hospitals. On file, Hospital Division, S. G. O.

(77) Letter from the Surgeon General to the Quartermaster General, May 26, 1917. Subject: Estimate for base hospitals for cantonments. On file, Record Room, S. G. O., 176796 (Old Files).

(78) Shown on plans for hospital barracks and quarters. On file, Hospital Division, S. G. O.

(79) Letter from the Surgeon General to Director General, Military Relief, American National Red Cross, March 22, 1918. Subject: Construction of recreation rooms for nurses' home at military hospitals. On file, Record Room, S. G. O., 632 (General). Letter from the Surgeon General to chairman, Operations Branch, General Staff, March 20, 1918. Subject: Rest rooms in camps, for Army nurses. On file, Record Room, S. G. O., 632 (General).

(80) G. O. No. 57, W. D., May 9, 1917; G. O. No. 82, W. D., July 5, 1917; G. O. No. 2, W. D., January 7, 1918; G. O. No. 46, W. D., May 9, 1918; Bull. No. 55, W. D., October 7, 1918.

(81) Plans for officers' quarters at hospitals. On file, Hospital Division, S. G. O.

(82) Block plans of hospitals. On file, Hospital Division, S. G. O.

(83) Plans of nurses' quarters. On file, Hospital Division, S. G. O.

(84) Plans of nurses' quarters in late construction. On file, Hospital Division, S. G. O.

(85) Plans of supply buildings at hospitals. On file, Hospital Division, S. G. O.

(86) Letter from the Acting Quartermaster General to the Chief of Staff. February 28, 1918. Subject: Laundries. On file, Record Room, S. G. O., 633 (General).

(87) Second indorsement from the Surgeon General to The Adjutant General. March 7, 1918. Subject: Laundries. On file, Record Room, S. G. O., 633 (General).

(88) Plan of laundry at Debarkation Hospital No. 2, Fox Hills, N. Y. On file, Hospital Division, S. G. O.

(89) Plan Q–4. On file, Hospital Division, S. G. O.

(90) Plan of garage at hospitals. On file, Hospital Division, S. G. O.

CHAPTER V.

HOSPITALS PROVIDED.

HOSPITALS AT NATIONAL ARMY CANTONMENTS.

It was contemplated as early as May, 1917, that there would be 32 camps at which the war army would be mobilized.[1] Sixteen of these camps were later located in the North and 16 in the South. Generally speaking, those in the South were for National Guard troops, and those in the North were for the National Army. Since there were no modern hospitals of temporary construction, of a size comparable with the ones required for the camps, whose plans could be followed, the provision of hospital facilities for the camps presented a problem of considerable magnitude. The Letterman General Hospital at San Francisco was the nearest approach to the type desired, and the degree of influence it exercised has already been mentioned. As all the hospitals for the moblization camps were to be alike, one plan was designed to serve for all the 32 camps; consequently, it was necessitated that the common plan be adequate and free from serious error lest a mistake be multiplied 32 times.

DELAYED CONSTRUCTION.

The preliminary plans which were prepared in the Surgeon General's Office showed the arrangement in each of the hospital buildings and their interrelation as a group. The plans for the hospitals of the National Army camps were forwarded to the Quartermaster General's Office and construction was requested on the following dates: On June 12, 1917, for Camps Devens, Dix, Jackson, and Lewis;[2] on June 13, 1917, for Camp Sherman;[3] on June 18, 1917, for Camps Upton, Custer, Lee, Meade, and Taylor;[4] on June 23, 1917, for Camp Grant;[1] on July 5, 1917, for Camps Dodge and Gordon;[6] and on July 9, 1917, for Camps Pike and Travis.[7]

On June 22, 1917, the Quartermaster General acknowledged by letter to the Surgeon General the receipt of the plans for the first 10 camps which had been sent, and stated that the available funds for the construction of buildings at the cantonments were not sufficient to cover the cost of the erection of hospitals.[8] Acting promptly on this information, the Surgeon General submitted an estimate to cover the deficiency, and on June 25, 1917, forwarded the letter of the Quartermaster General to the Chief of Staff by an indorsement in which he stated that the deficiency estimate had been made and he requested that the Quartermaster General be authorized, in the emergency, to proceed with construction of the National Army hospitals.[9] In passing through The Adjutant General's Office an indorsement was added to the letter in which The Adjutant General requested the Quartermaster General to delay action for a reasonable length of time to determine if possible what the will of Congress might be.[10] To this request of The Adjutant General the Quartermaster General replied on July 16, 1917, stating that the time had come when a start must be made in the construction of the hospital part of the cantonments if the whole was to be completed together.[11] On the following day The Adjutant General forwarded to the Quartermaster General the instructions and authority of the Secretary of War to proceed with the construction of hospital facilities for 3 per cent of the commands,[12] and on July 24 and 26 the necessary plans and instructions were sent to the field by the Cantonment Division of the Quartermaster General's Office. Under this authority of the Secretary of War the construction of the hospitals at the following National Army cantonments was begun: For hospitals of 1,000 beds each at Camps Devens, Dix, Jackson, Lewis, Sherman, Upton, Custer, Lee, Meade, Taylor, Grant, and Travis; and for 500-bed hospitals at Camps Dodge, Gordon, and Pike.

The strengths of troops at the National Army camps, with the dates when the first sick were admitted to hospitals,[13] were as follows:

Camps.	First patient received in cantonment hospital.	Average number of troops in camps.	
		September, 1917.	October, 1917.
Upton	Sept. 1	10,000	29,000
Custer	Sept. 5	8,500	19,000
Devens	Sept. 5	22,000	28,000
Lewis	Sept. 10	19,000	37,500
Taylor	Sept. 13	14,500	23,000
Sherman	Sept. 15	13,000	32,000
Travis	Sept. 21	13,000	27,000
Lee	Sept. 23	12,500	31,000
Pike	Sept. 27	23,000	24,000
Meade	Sept. 28	6,000	17,500
Gordon	Oct. 4	17,000	17,500
Grant	Oct. 14	13,500	28,500
Jackson	Oct. 22	13,000	16,000
Dodge	Oct. 28	16,000	23,000
Dix	Oct. 29	9,000	25,000

ADDITIONS AND IMPROVEMENTS.

The base hospitals, as orginally constructed at the National Army camps, were of pavilion type and all buildings were one-story, nearly all being connected by corridor without steps. Subsequently, 32 wards (all but the isolation and psychiatric wards) were connected by corridor with the administration, receiving and forwarding, laboratory and X-ray, eye, ear, nose and throat, operating, mess and kitchen, and exchange buildings.[14] The whole group covered a rectangular area of approximately 1,200 by 1,400 feet, fronting on a long side.[14] The wards were placed parallel to each other in four rows of eight wards each, running from front to rear. Between the inner two rows, and from front to rear, were the laboratory and X-ray building, the operating pavilion, the exchange, mess hall and kitchen, in the order given. In front of the center was the administration building and to its right the receiving and forwarding buildings. The nurses' quarters were on one front corner, the officers' ward on the other; the isolation and psychiatric wards on one rear corner, and the quarters for the enlisted personnel on the other. To the rear of the latter two were the utilities and the storage buildings. The officers' quarters were in front, but across the street and facing the hospital. All buildings were of frame; but all had modern equipment and fixtures, plumbing and sewerage, steam heating, cooking, and sterilizing.

There were originally about 60 or 70 buildings in each National Army base hospital group. Subsequent conditions necessitated augmenting this number to 80 or 90 and in some instances even to 100.[15]

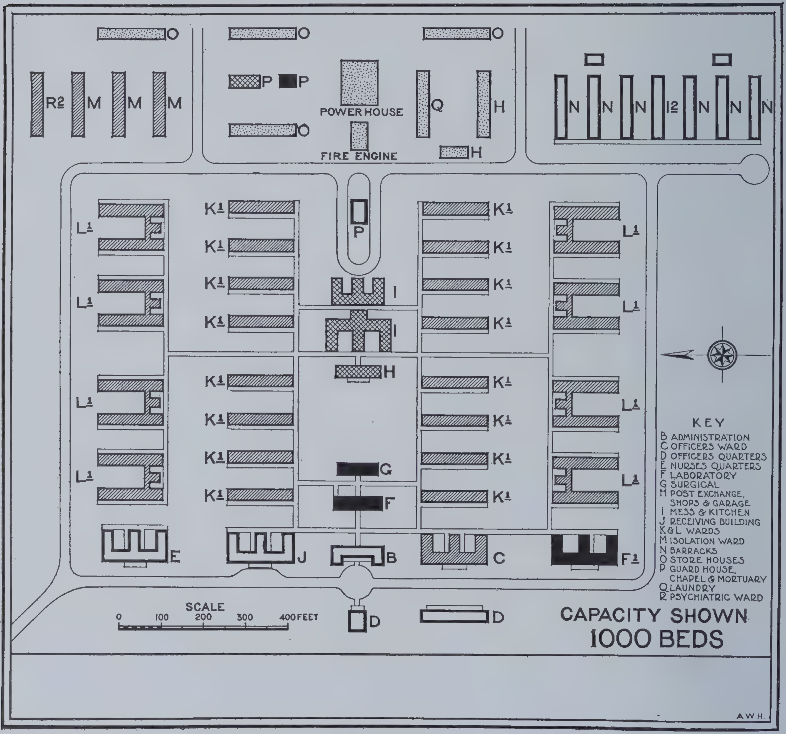


FIG. 57.—Block plan of base hospitals as originally constructed.

The corridors connecting the buildings were 10 feet wide and in northern cantonments were inclosed. This corridor width was not essential to normal uses, but it was so constructed for expansion space for personnel and convalescents. There was a mile of linear corridor space in the hospital, so constructed as to eliminate the necessity for steps up or down into any building.[14]

The administration building (B) soon proved to be too small at most places, mainly because administrative requirements had increased and extra administrative staffs had been instituted for training for other base and evacuation hospitals.[16] It was also found more advantageous to have the dispensary located in the receiving building. This was done in later construction work, thereby necessitating an increase in floor space.[17] The laboratory and X-ray building (F) soon became inadequate in size at all the large camps;[16] and it was enlarged to make possible the growing scope of work, not only in connection with the hospital, but with that in the nature of public health control in the military communities.[18]

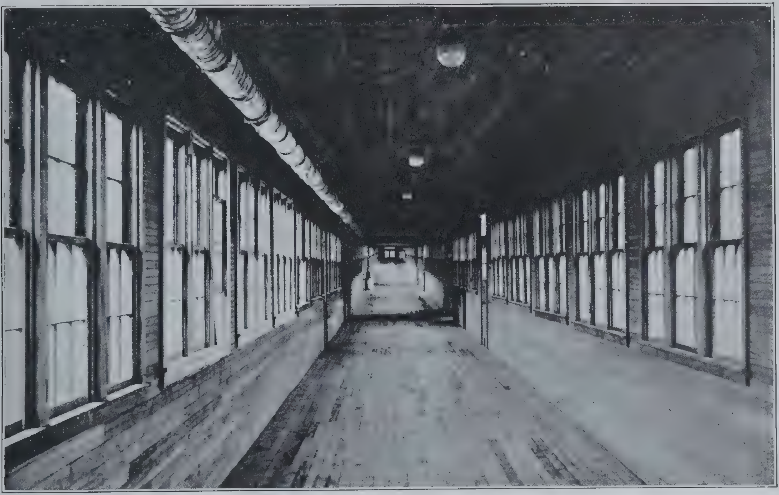


FIG. 58.—Inclosed corridor, connecting buildings.

The surgical pavilion (G) was enlarged at all the large camps.[19] The necessity for this was occasioned largely by the acceptance of men for service who had disabilities considered removable by surgical procedures.

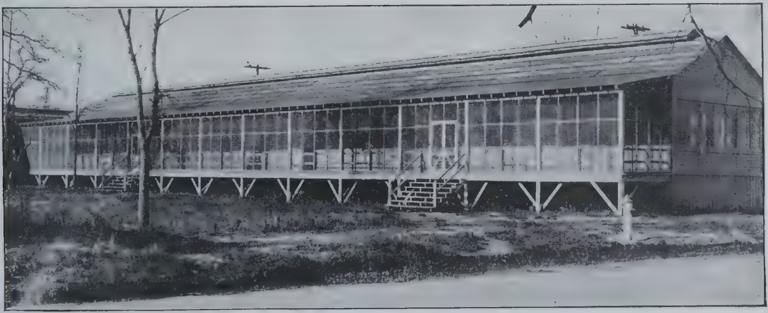


FIG. 59.—Typical one-story ward of temporary construction.

The refrigerating area and the mess hall were enlarged in the larger hospitals; and the diet kitchen, in newer designs, was placed nearer the passage, to be of easier access to food conveyances.[20]

The single ward (K–1) and the double ward (L–1) were the wards which cared for the great majority of the sick.[21] The former predominated in number and size. Little change was made in these wards during the war except to increase the number of quiet rooms, to provide more doors giving access to the porch, and to bring the utility room nearer to the ward proper.[22] The construction of the double ward (L-1), with common toilet and interior connection, provided because of economy in plumbing at all the camp base hospitals, was discontinued, due to the many objections incident to a detached common toilet area not under close observation. The isolation ward (M) was commonly used at the first camps. It was changed in later construction to provide smaller and a greater number of isolation rooms and to allow varied, and greater

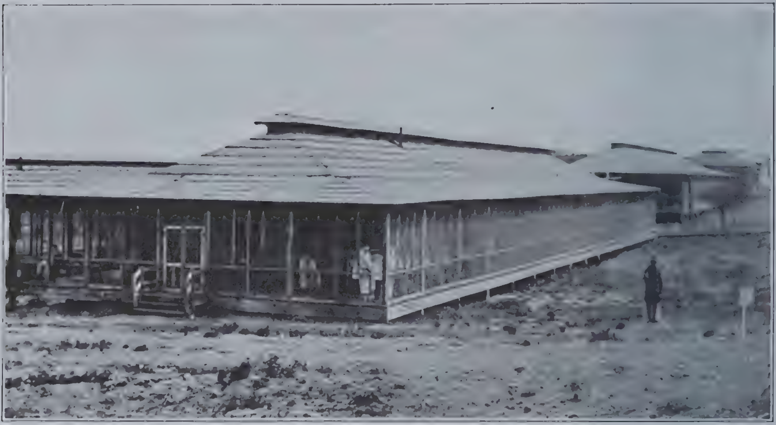


FIG. 60.—Portion of the isolation section of a base hospital.

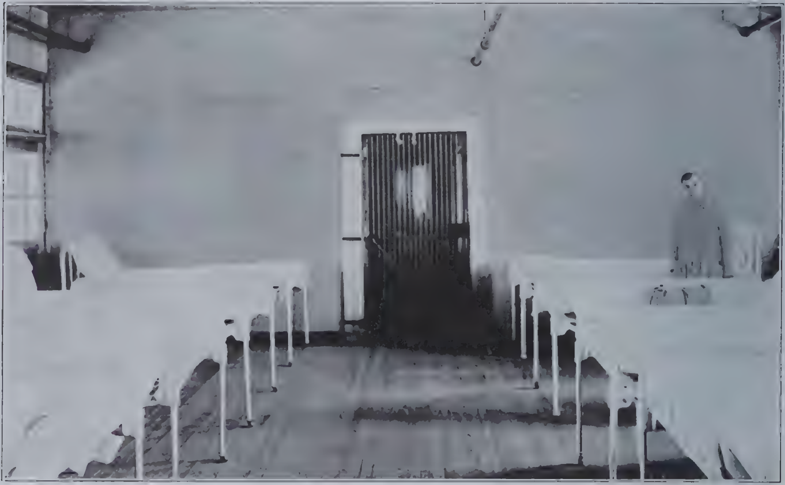


FIG. 61.—Portion of the psychiatric ward.

separation of, food and utensil service.[23] Little, if any, change was made in the original plan for the psychiatric ward (R–2).

The two-story ward barrack building was developed and used in the enlargement of the hospitals of the National Army early in 1918.[24] The interior arrangement provided four wards, two on each floor, each with a toilet room and two small rooms. On each floor, in the center of the building and between the wards, was a common day room. The plan was to have these ward barracks located as near to the hospital group as possible, to enhance their availability and to reduce the distance between them and the central mess and kitchen.[25] At some hospitals, however, the mistaken impression was gained that these buildings were to constitute a separate convalescent hospital and that a separate mess and kitchen would be built for the group.[26] As a result, at some cantonments, they were located at a distance from the hospital proper and laid out as a separate colony rather than as an integral part of the hospital.[27]

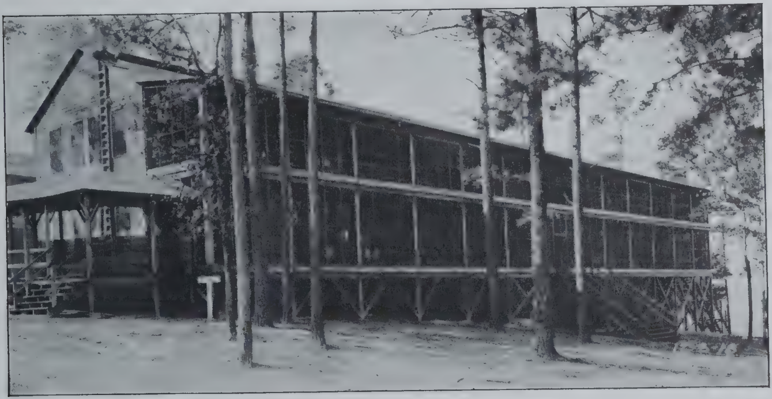
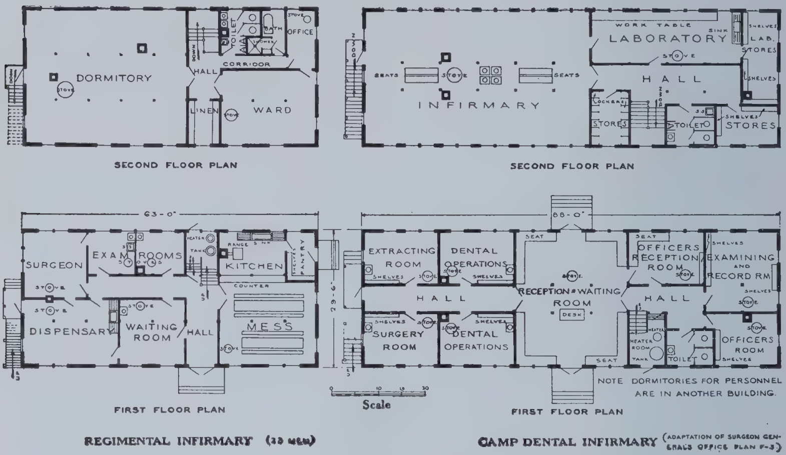


FIG. 62.—Exterior of a typical ward barrack.

In addition to the provision of hospitals the appropriation for construction and repair of hospitals provided certain buildings in the camp proper.[28] A regimental infirmary was built for each regiment in every cantonment.[29] The purpose of the regimental infirmary was to afford housing for the Medical Department enlisted personnel of the regiment and space for offices, for physical examinations, for out-patient treatment, and a dispensary. It was not intended that sick be given hospital care here. However, in the early period of the camps, when the hospital facilities were not quite sufficient to cope with the large number of sick from the raw troops in training,[16] these infirmaries, in addition to being used as it was originally intended they should be, were also extensively used at the cantonments for the hospital care of the sick.[30] One dental infirmary was built for each National Army cantonment and was located centrally in the camp area.[31] In towns or cities adjacent to the cantonments, ar at the cantonments, early treatment stations were provided for the administration of venereal prophylactic treatment. The stations varied in number, and were either constructed or, as was usually the case, provided in existent buildings.[32] In the early period of the camps, when the hospital facilities were not quite sufficient to cope with the large number of sick from the raw troops in training,[16] these infirmaries, in addition to serving the numbers for which they were built, were extensively used at the cantonments for the sick requiring treatment.[30]



REGIMENTAL INFIRMARY (32 MEN)

CAMP DENTAL INFIRMARY (ADAPTATION OF SURGEON GENERAL'S OFFICE PLAN F-3)

FIG 63.

HOSPITALS AT NATIONAL GUARD CAMPS.

HOSPITALS NOT INCLUDED IN PRELIMINARY PLANS.

On May 29, 1917, when the Chief of Staff directed that the National Army cantonments be built, he stated that the National Guard housing would be made the subject of a subsequent communication.[33] On July 13, 1917, instructions were issued to the Quartermaster General to proceed with the construction of 16 camps for the National Guard, 6 to be ready for occupancy August 1, 6 August 15, and the remainder September 1.[34]

No early provision was made for the construction of hospitals at the National Guard camps.[35] The Surgeon General, therefore, requested The Adjutant General, on June 28, 1917, to reserve adequate tentage for tent hospitals for the National Guard camps.[35] Because of the fact that no tentage was available in the Quartermaster Department,[36] it was directed that the tentage stored in the field medical supply depots be used.[37] This Medical Department tentage was a part of the equipment of sanitary units, namely, department hospitals, field hospitals, etc., equipment which had been slowly acquired after years of planning and effort and which would soon be needed in actual service at the front.[38] The tentage referred to was insufficient for the 16 National Guard camps,[38] and for this reason, as well as the disinclination to divert its use, reconsideration of the instructions was urgently requested and further representation was made by the Surgeon General that there be proper provision to shelter the sick at the camps.[38] A period of inactivity followed, and at the end of a month the Surgeon General stated that the question of adequate hospital provision had been delayed to the point of danger and requested the Chief of Staff to authorize the construction of frame hospitals and infirmaries for the National Guard troops.[39] On July 26, 1917, the Secretary of War authorized the construction of temporary hospitals for the National Guard.[39] Anticipating the probability of this authorization, the Surgeon General, on July 17, 1917, had provided the Quartermaster General with preliminary plans and form letters, for each camp, requesting construction.[40] The War Department authority provided for the construction of hospital facilities for 3 per cent of the original personnel allotted to each camp.[41] The authorized number of hospital beds for each National Guard camp, the average strength of the commands at the camps for the first two months, and the coincident degree of hospital completion, were as follows:[13]

Camps.	Number of beds originally authorized.	Per cent completed—		First sick received in new camp hospital.	Average strength of command for first two months after opening.	
		Sept. 15.	Oct. 15.		September.	October.
Beauregard	500	25	80	Oct. 14, 1917	4,500	7,500
Bowie	800	54	99	Aug. 22, 1917	15,000	31,000
Cody	800	40	99	Sept. 1, 1917	12,000	22,000
Doniphan	800	25	66	....	[a]12,000	[b]23,000
Fremont	500	10	50	Jan. 4, 1918	[a]7,500	[b]11,000
Greene	1,000	52	95	Sept. 17, 1917	38,500	41,000
Hancock	800	20	75	Oct. 14, 1917	27,000	28,000
Kearny	500	10	50	Sept. 1, 1917	5,000	15,500
Logan	500	80	100	Sept. 15, 1917	14,500	22,500
MacArthur	800	95	98	Sept. 12, 1917	5,500	27,500
McClellan	1,000	35	90	Sept. 27, 1917	15,000	24,000
Sevier	500	25	95	Sept. 21, 1917	12,000	23,500
Shelby	500	83	100	Sept. 26, 1917	16,000	23,000
Sheridan	800	20	50	Oct. 9, 1917	16,000	21,000
Wadsworth	1,000	77	90	Oct. 8, 1917	22,500	31,000
Wheeler	500	10	25	Oct. 17, 1917	5,000	23,000

[a] January, 1918. [b] February, 1918.

ADDITIONS AND IMPROVEMENTS.

The hospitals as originally authorized for the National Guard camps were similar to those for the National Army cantonments. The block plan was exactly the same.[14] The important differences were that central heating, steam cooking, plumbing, sewerage, and interior lighting and ceiling, were not authorized.[14] These necessities, except central heating, were authorized by the Secretary of War in October and December, 1917, and the work of installation proceeded as rapidly as possible.[42] They were not authorized earlier because of the intention to evacuate the troops from these camps before cold weather. The lack of these necessities was sorely felt in the hospitals in the early months of their operation.[16]

After the hospitals had been completed, various additions and improvements were made from time to time. The most important of these was the addition of ward barracks, varying in number at the different camps to allow for from 250 to 500 additional patients, depending upon the total strength of the camp commands.

As in the National Army cantonments, the original hospitals, built at the authorized bed capacity of 3 per cent, were too small.[43] Additional quarters for personnel, improvements in cooking and lighting facilities, and additions to laboratory, receiving and operating buildings, were a few of the many important items of subsequent additional construction.[44]

Regimental infirmaries similar to those in the National Army cantonments were provided the National Guard camps, one to each regiment, and here, even more than with the National Army troops, these buildings, in addition to their regimental work, were used extensively until conditions were settled in the hospitals.[30]

Two dental infirmaries were constructed at each camp and located centrally, to make them readily accessible to the training troops.[31]

GENERAL HOSPITALS.

Four general hospitals functioned as a part of the Army in the United States prior to April, 1917. The capacity of each of these hospitals, with the exception of that of Hot Springs, Ark., was markedly expanded by the provision of temporary construction from time to time. In this temporary construction, as was the case with each general hospital constructed, the projects were individual in character and for that reason the subject of additions and improvements will be considered subsequently in the discussion of separate general hospital histories.

PORT HOSPITALS.

Two ports were used for embarkation and debarkation:[45] One at Hoboken, N. J., the other at Newport News, Va. The debarkation of sick and wounded was provided for at both places.[46]

The sick and wounded concerned were divided into two principal classes, those from embarking troops and those returned sick or wounded from overseas. It was anticipated that the first class would have to be cared for as soon as embarkation began; the home care of the second class was not viewed as a problem demanding early solution.[43]

The following hospitals were provided at the ports during the war: At Hoboken, N. J.: General Hospital No. 1, Williamsbridge, New York City (a port hospital part of the time); Base Hospital, Camp Merritt, Tenafly, N. J.; Base Hospital, Camp Mills, Long Island, N. Y.; Auxiliary Hospital No. 1, New York City; Embarkation Hospital No. 1 (formerly St. Mary's Hospital), Hoboken, N. J.; Embarkation Hospital No. 2, Secaucus, N. J.; Embarkation Hospital No. 3, Hoffman Island, N. Y.; Embarkation Hospital No. 4, (formerly Polyclinic Hospital), New York City; Debarkation Hospital No. 2, Fox Hills, Staten Island (was General Hospital No. 41 part of the time); Debarkation Hospital No. 3 (formerly Greenhut Building), New York City; Debarkation Hospital No. 4 (formerly Nassau Hotel), Long Beach, Long Island (was General Hospital No. 39 part of the time); Debarkation Hospital No. 5 (formerly Grand Central Palace Building), New York City. At Newport News, Va.: Embarkation Hospital, Camp Stewart, Newport News, Va.; Debarkation Hospital No. 51 (formerly Soldiers' Home), Hampton, Va. (was General Hospital No. 43 part of the time); Debarkation Hospital No. 52, (formerly General Hospital No. 22, Richmond College), Richmond, Va. All of these hospitals were not in use at the same time; the majority of them, however, were in use simultaneously late in the war period. The hospital at Camp Merritt and the embarkation hospitals were provided first and were used to care for the sick developing at the ports, particularly among troops encamped and awaiting transport. With the exception of Debarkation Hospital No. 1, which was procured early, the debarkation hospitals were developed later to receive the sick and wounded from abroad.

Figure 152 (p. 426) shows the available beds and the number of beds occupied in the embarkation and debarkation hospitals at Hoboken and Newport News.

As was the case with the general hospitals provided, the plans for embarkation and debarkation hospitals differed materially one from the other and will be given further consideration in the discussion of the separate hospital histories.

MISCELLANEOUS HOSPITALS.

Many hospitals were constructed, exclusive of general, camp, base, and port hospitals. As they do not fall conveniently into a simple classification, they have been grouped as miscellaneous hospitals. These varied greatly in size. Some were larger than many of the general hospitals; others were quite small; some were really infirmaries, provided for emergency work only; a few consisted merely of room primarily intended for other purposes. They were constructed at various times during the war; therefore, some represent early work, others the most recent and best hospital construction work that was done. Many were necessitated because of the establishment of separate camps of instruction apart from other camps, cantonments, or posts. Large storage depots, shell-filling plants, temporary arsenals, proving grounds, chemical experiment stations, port terminals, and a host of other large special military activities required hospital or infirmary construction. Of these miscellaneous hospitals, eight were more important than the others, at least in point of size. These were: Base Hospital, Fort Sam Houston, Tex.; Base Hospital, Fort Riley Kans., which served as a base hospital for the National Army troops at Camp Funston; Camp Hospital, Camp Joseph E. Johnston, Jacksonville, Fla.; Camp Hospital, Edgewood Arsenal, Edgewood, Md.; Camp Hospital, Camp Abraham Eustis, Lee Hall, Va.; Camp Hospital, Camp Humphreys, Accotink, Va.; Camp Hospital, Camp Knox, West Point, Ky.; and Camp Hospital, Camp Bragg, Fayetteville, N. C.

At the following places there were hospital facilities, the bed capacity of none exceeding 200:[13]

Raritan Arsenal, Metuchen, N. J., 200-bed hospital.
Norfolk Terminal, Norfolk, Va., 150-bed hospital.
Camp Forest, Fort Oglethorpe, Ga., infirmary.
Camp Glenburne, Glenburne, Md., infirmary.
Camp Benning, Columbus, Ga., infirmary.
Camp Perry, Port Clinton, Ohio, small hospital.
Camp Crane, Allentown, Pa., small hospital.
Camp Greenleaf, Fort Oglethorpe, Ga., infirmary.
Camp Holabird, Baltimore, Md., small hospital.
Camp Jessup, Fort McPherson, Ga., infirmary.
Camp Normoyle, San Antonio, Tex., infirmary.

Camp Meigs, Washington, D. C., infirmary.
Disciplinary Barracks, Fort Leavenworth, Kans., small permanent hospital.
Aberdeen Proving Ground, Aberdeen, Md., emergency hospital.
Port Newark Terminal, Newark, N. J., infirmary.
Ordnance Depot, Middletown, Pa., infirmary.
Ordnance Depot, New Cumberland, Pa., infirmary.
Supply Base, Fort Wood, N. Y., infirmary.
Storage Depot, Chicago, Ill., infirmary.
Storage Depot, Columbus, Ohio, infirmary.
Storage Depot, Jeffersonville, Ind., infirmary.
Storage Depot, New Cumberland, Pa., infirmary.
Storage Depot, Pittsburgh, Pa., infirmary.
Storage Depot, Schenectady, N. Y., infirmary.
Storage Depot, St. Louis, Mo., infirmary.
Picric Acid Plant, Little Rock, Ark., infirmary.
Supply Base, Brooklyn, N. Y., infirmary.
Tank Corps Camp, Asheville, N. C., infirmary.
Bush Terminal, Brooklyn, N. Y., infirmary.
Camp Colt, Gettysburg, Pa., infirmary.
Lakehurst Proving Ground, N. J., infirmary.
Camp Alexander, Newport News, Va., infirmary.
Delaware General Supply Odnance Depot, Pedricktown, N. J., infirmary.
Camp Syracuse, N. Y., infirmary.
Camp Willoughby, Ohio, infirmary.

HOSPITAL BEDS AVAILABLE ON ARMISTICE DAY.

On November 11, 1918, there were in the United States, excluding hospitals of small size and the camp hospitals, 92 large hospitals with a combined bed capacity of 120,916, and additions authorized, or under construction, which would have furnished a total capacity of 147,636 beds. This represented 89 new hospitals which had been opened, many completely constructed.[47]

In addition to the hospitals already in operation, projects were under way, buildings had been leased, and work begun which would have made available approximately 60,000 more beds in Army hospitals in the United States. Two procurement boards were in the field with a long list of cities to be visited for the purpose of obtaining more hospitals.

TABLE 7.—*Hospital beds available on Armistice Day.*[47]

	Standard capacity of hospital.	Bed situation, Nov. 11, 1918.			Additional capacity by new construction or by lease of buildings.	
		Occupied.	Vacant.	Total.	Number of beds.	Per cent of completion.
GENERAL HOSPITALS.						
Army and Navy, Hot Springs, Ark	266	151	139	290	....	....
Fort Bayard, N. Mex	1,046	1,080	316	1,796	....	....
Letterman, San Francisco, Calif	1,368	1,917	489	1,406	....	....
Walter Reed, D. C	1,850	1,675	802	2,477	576	90
No. 1, Williamsbridge, N.Y. (under surgeon, Port of Embarkation, Hoboken, N. J.)	....	....	....	....	....	....
No. 2, Fort McHenry, Md	1,200	758	392	1,150	1,840	53
No. 3, Colonia, N. J	1,600	1,185	415	1,600	....	....
No. 4, Fort Porter, N. Y	322	287	35	322	....	....
No. 5, Fort Ontario, N. Y	660	681	657	1,338	418	87
No. 6, Fort McPherson, Ga	2,000	1,369	631	2,000	....	....
No. 7, Baltimore, Md	102	29	73	102	....	....

TABLE 7.—*Hospital beds available on Armistice Day*—Continued.

	Standard capacity of hospital.	Bed situation, Nov. 11, 1918.			Additional capacity by new construction or by lease of buildings.	
		Occupied.	Vacant.	Total.	Number of beds.	Per cent of completion.
GENERAL HOSPITALS—continued.						
No. 8, Otisville, N. Y	579	570	9	579	....	....
No. 9, Lakewood, N. J	932	773	136	909	....	....
No. 10, Boston, Mass	....	....	....	....	1,700	50
No. 11, Cape May, N. J	700	598	102	700	....	....
No. 12, Biltmore, N. C	451	346	245	591	....	....
No. 13, Dansville, N. Y	....	....	....	....	250	75
No. 14, Fort Oglethorpe, Ga	1,300	1,845	0	1,845	....	....
No. 15, Corpus Christi, Tex	252	165	109	274	....	....
No. 16, New Haven, Conn	500	530	0	530	....	....
No. 17, Markleton, Pa	130	217	0	217	36	50
No. 18, Waynesville, N. C	200	564	36	600	....	....
No. 19, Oteen (Azalea), N. C	900	845	55	900	600	84
No. 20, Whipple Barracks, Ariz	328	351	18	369	....	....
No. 21, Denver, Colo	380	163	217	380	736	50
No. 22, Richmond, Va	1,000	319	681	1,000	....	....
No. 23, Hot Springs, N. C	....	....	....	....	650	8
No. 24, Parkview Station, Pittsburgh, Pa	200	8	192	200	1,000	65
No. 25, Fort Benj. Harrison, Ind	500	467	228	695	....	....
No. 26, Fort Des Moines, Iowa	1,224	1,428	0	1,428	....	....
No. 27, Fort Douglas, Utah	150	129	289	418	568	0
No. 28, Fort Sheridan, Ill	198	104	80	184	4,780	25
No. 29, Fort Snelling, Minn	931	156	372	528	....	....
No. 30, Plattsburg Barracks, N. Y	900	644	256	900	....	....
No. 31, Carlisle, Pa	35	9	26	35	500	50
No. 33, Fort Logan H. Roots, Ark	500	380	205	585	....	....
No. 34, East Norfolk, Mass	340	203	129	332	....	....
No. 35, West Baden, Ind	1,000	0	575	575	425	0
No. 36, Detroit, Mich	....	....	....	....	200	....
No. 37, Madison Barracks, N. Y	112	11	101	112	350	80
Total	24,156	19,357	8,010	27,367	14,629	....
CAMP BASE HOSPITALS.						
Beauregard, La	1,178	743	687	1,440	....	....
Bowie, Tex	1,486	787	709	1,496	....	....
Cody, N. Mex	1,342	1,265	0	1,265	....	....
Custer, Mich	1,858	1,535	323	1,858	270	10
Devens, Mass	1,610	1,382	1,358	2,740	....	....
Dix, N. J	1,978	1,232	952	2,184	....	....
Dodge, Iowa	1,954	1,305	891	2,196	....	....
Edgewood Arsenal, Md	314	286	147	433	....	....
Eustis, Abraham, Va	1,007	635	121	756	24	98
Fremont, Calif	1,002	674	893	1,567	....	....
Funston, Kans. (see Base Hospital, Fort Riley, Kans.)	....	....	....	....	....	....
Gordon, Ga	1,822	1,299	902	2,201	....	....
Grant, Ill	1,978	1,139	1,419	2,558	1,000	2
Greene, N. C	1,563	931	650	1,584	....	....
Hancock, Ga	1,518	1,980	592	2,572	....	....
Humphreys, A. A., Va	613	594	184	778	858	1
Jackson, S. C	2,016	2,506	3,154	5,660	....	....
Johnston, Jos. E., Fla	833	703	280	983	....	....
Kearny, Calif	957	1,074	876	1,950	....	....
Lee, Va	1,953	1,186	954	2,140	808	1
Lewis, Wash	1,997	2,195	5	2,200	....	....
Logan, Tex	799	820	695	1,515	....	....
MacArthur, Tex	1,370	1,265	1,668	2,933	....	....
McClellan, Ala	1,693	1,564	2,078	3,642	....	....
Meade, Md	1,930	977	953	1,930	....	....
Pike, Ark	2,009	1,433	1,307	2,740	....	....
Sevier, S. C	1,238	1,020	478	1,498	....	....
Shelby, Miss	959	1,608	336	1,944	....	....
Sheridan, Ala	1,310	925	1,131	2,056	....	....
Sherman, Ohio	1,833	1,484	790	2,274	428	0
Sill, Fort, Okla	894	417	817	1,234	....	....
Taylor, Ky	1,833	3,709	1,416	5,125	....	....
Travis, Tex	1,997	3,479	903	4,382	....	....
Upton, Long Island, N. Y	1,739	1,265	1,141	2,406	....	....
Wadsworth, S. C	1,634	1,169	523	1,692	....	....
Wheeler, Ga	1,248	1,007	293	1,300	....	....
Total	51,665	45,593	29,039	74,632	3,388	....

TABLE 7.—*Hospital beds available on Armistice Day*—Continued.

	Standard capacity of hospital.	Bed situation, Nov. 11, 1918.			Additional capacity by new construction or by lease of building.	
		Occupied.	Vacant.	Total.	Number of beds.	Per cent of completion.
MISCELLANEOUS HOSPITALS.						
Under surgeon, port of embarkation, Hoboken, N. J.						
General Hospital No. 1, Williamsbridge, N. Y	1,082	679	471	1,150	....	....
Base Hospital, Camp Merritt, N. J	3,500	2,264	486	2,750	....	....
Base Hospital, Camp Mills, Long Island, N. Y	635	1,492	122	1,614	....	....
Auxiliary Hospital, Rockefeller Institute, New York City	45	40	5	45	....	....
Embarkation Hospital No. 1, St. Mary's Hospital, Hoboken, N. J	782	450	350	800	....	....
Embarkation Hospital No. 2, Secaucus, N. J	270	143	214	357	....	....
Embarkation Hospital No. 3, Hoffman Island, New York Harbor	694	312	382	694	....	....
Embarkation Hospital No. 4, Polyclinic Hospital, New York City	....	....	....	....	500	....
Debarkation Hospital No. 1, Ellis Island, N. Y	1,075	307	768	1,075	....	....
Debarkation Hospital No. 42, Fox Hills, Staten Island, N. Y	1,808	685	1,123	1,808	....	....
Debarkation Hospital No. 3, Greenhut Building, New York City	....	....	....	....	3,130	....
Debarkation Hospital No. 4, Nassau Hotel, Long Beach, Long Island, N. Y	....	....	....	....	1,000	....
Debarkation Hospital No. 5, Grand Central Palace, New York City	....	....	....	....	3,408	....
Total	9,891	6,572	3,921	10,293	8,038	....
Under surgeon, port of embarkation, Newport News, Va.						
Base Hospital, Camp Stuart, Va	826	1,544	1,373	2,917	385	90
Department base hospitals.						
Base Hospital, Fort Bliss, Tex	882	519	272	791	....	....
Base Hospital, Fort Riley, Kans	3,068	2,374	694	3,068	....	....
Base Hospital, Fort Sam Houston, Tex	1,655	1,205	643	1,848	280	C
Total	5,605	4,098	1,609	5,707	280	....
RECAPITULATION.						
General hospitals	24,156	19,357	8,010	27,367	14,629	....
Camp base hospitals	51,665	45,593	29,039	74,632	3,388	....
Port of Embarkation, Hoboken, N. J	9,891	6,372	3,921	10,293	8,038	....
Port of Embarkation, Newport News, Va	826	1,544	1,373	2,917	385	....
Department base hospitals	5,605	4,098	1,609	5,707	280	....
Grand total	92,143	76,964	43,952	120,916	26,720	....

REFERENCES.

(1) Memorandum from Chief, War College Division, General Staff, to the Chief of Staff, May 4, 1917. Subject: Cantonments for National Guard and additional forces. On file, Mail and Record Division, A. G. O., 2593945 (Old Files).

(2) Letter from the Surgeon General to the Quartermaster General, June 12, 1917. Subject: Cantonment hospitals. On file, Record Room, S. G. O., 176796 (Old Files).

(3) Letter from the Surgeon General to the Quartermaster General, June 13, 1917. Subject: Cantonment hospital. On file, Record Room, S. G. O., 176796 (Old Files).

(4) Letter from the Surgeon General to the Quartermaster General, June 18, 1917. Subject: Cantonment hospitals. On file, Record Room, S. G. O., 176796 (Old Files).

(5) Letter from the Surgeon General to the Quartermaster General, June 23, 1917. Subject: Cantonment hospital. On file, Record Room, S. G. O., 176796 (Old Files).

(6) Letter from the Surgeon General to the Quartermaster General, July 5, 1917. Subject: Cantonment hospital. On file, Record Room, S. G. O., 176796 (Old Files).

(7) Letter from the Surgeon General to the Quartermaster General, July 10, 1917. Subject: Cantonment hospitals. On file, Record Room, S. G. O., 176796 (Old Files).

(8) Letter from officer in charge cantonment construction, to the Surgeon General, June 22, 1917. Subject: Estimate for construction of hospitals at cantonments for the National Army. On file, Mail and Record Division, A. G. O., 2637479 (Old Files).

(9) First indorsement from the Surgeon General to the Chief of Staff, June 25, 1917. Subject: Cantonment hospitals. On file, Mail and Record Division, A. G. O., 2637479 (Old Files).

(10) Second indorsement from The Adjutant General to the officer in charge, cantonment construction, June 28, 1917. On file, Mail and Record Division, A. G. O., 2637479 (Old Files).

(11) Third indorsement from Quartermaster General to Chief of Staff, July 16, 1917. Subject: Hospital construction, National Army cantonments. On file, Mail and Record Division, A. G. O., 632.

(12) Fourth indorsement from The Adjutant General to officer in charge, cantonment construction, July 17, 1917. Subject: Approval. On file, Mail and Record Division, A. G. O., 632.

(13) Compiled from bed reports. On file, Record Room, S. G. O., 632 (U).

(14) Shown on block plans of base hospitals. On file, Hospital Division, S. G. O.

(15) Shown in construction requests, hospitals concerned. On file, Hospital Division, S. G. O.

(16) Extracts from reports of sanitary inspectors made during the World War. On file, Record Room, S. G. O., 721-1.

(17) Plan J-3. On file, Hospital Division, S. G. O.

(18) Memorandum from Major Voorhees, Sanitary Corps, S. G. O., to Capt. J. H. Clark, construction division, W. D., September 25, 1918. Subject: Addition to X-ray laboratory. On file, Record Room, S. G. O., 632 Lab. (General).

(19) Letter from the Surgeon General to the Quartermaster General, for the officer in charge of cantonment construction, December 15, 1917. Subject: Operative building for eye, ear, nose, etc. On file, Record Room, S. G. O., 652 (General).

(20) Letter from the Chief of Construction Division to the Surgeon General, September 6, 1918. Subject: Allotment of refrigeration at base hospitals. On file, Hospital Division (National Army, General File, Misc.). Plans of kitchen and mess halls. On file, Hospital Division, S. G. O.

(21) Plan K-25. On file, Hospital Division, S. G. O.

(22) Shown on plans of different hospital wards. On file, Hospital Division, S. G. O.

(23) Shown on plans of isolation wards (M-1). On file, Hospital Division, S. G. O.

(24) Letter from the Surgeon General to the Quartermaster General, December 26, 1917. Subject: Hospital records at National Army and National Guard base hospitals. On file, Record Room, S. G. O., 632-11 (General).

(25) Telegram from the Surgeon General to commanding officer, National Army and National Guard hospitals, March 8, 1918. Subject: Location of two-story ward barracks. On file, Hospital Division, S. G. O. (National Army General File). Two-story ward barracks.

(26) Letter from the commanding officer, Base Hospital, Camp Dodge, Iowa, to the Surgeon General, May 8, 1918. Subject: Change in two-story wards. On file, Record Room, S. G. O., 652 (Camp Dodge) B.

(27) Telegram from the commanding officer, Base Hospital, Camp Custer, Mich., to the Surgeon General, March 9, 1918. Subject: Location of two-story ward barracks. On file, Record Room, S. G. O., 652 (Camp Custer) D. Telegram from commanding officer, Base Hospital, Camp Gordon, to the Surgeon General, March 9, 1918. Subject: Location of two-story ward barracks. On file, Record Room, S. G. O., 652 (Camp Gordon) D.

(28) Letter from the Surgeon General to the chairman, Military Committee, House of Representatives, Washington, D. C., May 22, 1918. Subject: Appropriation for construction and repair of hospitals. On file, Record Room, S. G. O., 632 (General).

(29) Letter from the Surgeon General to the Quartermaster General, May 26, 1917. Subject: Regimental infirmary. On file, Record Room, S. G. O., 176796-R (Old Files).

(30) Reports from division surgeons to the Surgeon General, various dates. Subject: Regimental infirmaries. On file, Hospital Division, S. G. O. (National Army General File), Regimental Infirmaries.

(31) First indorsement from hospital division, S. G. O., to Finance and Supply Division, S. G. O., April 6, 1918. Subject: Dental infirmaries. On file, Record Room, S. G. O., 632 (Dental Infirmaries).

(32) Weekly report from section of venereal diseases, Division of Infectious Diseases, to the Surgeon General, October 13, 1917. On file, Record Room, S. G. O., Weekly Report File (Venereal Control).

(33) Telegram from The Adjutant General to the commanding general, each department, May 29, 1917. Subject: Construction of cantonments for National Army and National Guard. On file, Mail and Record Division, A. G. O., 2613846 (Old Files Section).

(34) Memoranda from the Chief of Staff to The Adjutant General, July 13, 1917. Subject: Construction work at National Guard divisional training camps. On file, Mail and Record Division, A. G. O., 354.1 (Misc. Sec.).

(35) Letter from the Surgeon General to The Adjutant General, June 28, 1917. Subject: Tentage for base hospitals for camps of militia. On file, Record Room, S. G. O., 174959–B (Old Files).

(36) Second indorsement from Quartermaster General to The Adjutant General, July 2, 1917. Subject: Tentage. On file, Record Room, S. G. O., 174959–B (Old Files).

(37) Third indorsement from The Adjutant General to the Surgeon General, July 6, 1917. Subject: Tentage. On file, Record Room, S. G. O., 174959–B (Old Files).

(38) Fourth indorsement from the Surgeon General to The Adjutant General, July 12, 1917. Subject: Tentage. On file, Record Room, S. G. O., 174959–B (Old Files).

(39) Ninth indorsement from the Surgeon General to the Chief of Staff, July 25, 1917. Subject: Authority to construct wood hospitals and infirmaries for National Guard camps. On file, Record Room, S. G. O., 174959 (Old Files).

(40) Letter from the Surgeon General to the Quartermaster General, July 17, 1917. Subject: Hospitals for National Guard camps. On file, Record Room, S. G. O., 174959–B (Old Files).

(41) Memorandum from Chief of War College Division to Chief of Staff, May 29, 1917. Subject: Cantonment construction program. On file, Record Room, S. G. O., 175339–c–1 (Old Files).

(42) First indorsement, Cantonment Division, W. D., to Surgeon General, November 5, 1917. Subject: Plumbing, sewer, lining, and ceiling of National Guard camp base hospitals. On file, Hospital Division, S. G. O. (National Guard General Files, Plumbing Facilities). Letter from Engineering Branch, W. D., to Surgeon General, April 4, 1918. Subject: Assistant Secretary of War's approval of installation of steam cooking for National Guard camp hospitals. On file, Record Room, S. G. O., 632 (General).

(43) Memoranda from the Surgeon General to the Chief of Staff, April 2, 1918. Subject: Hospitalization in the United States. On file, Record Room, S. G. O., 632 (General).

(44) Letter from the Surgeon General to the Construction Division, W. D., June 18, 1919. Subject: Record of authorization of funds. On file, Record Room, S. G. O., 632–1 (General).

(45) First indorsement from The Adjutant General to the Surgeon General, July 16, 1917. Subject: Ports of embarkation. On file, Record Room, S. G. O., 188699–A (Old Files).

(46) Letter from surgeon, port of embarkation, to the Surgeon General, January 8, 1918. Subject: Hospital facilities. On file, Record Room, S. G. O., 632 (Newport News, Va.) N. Letter from The Adjutant General to the Surgeon General, January 31, 1918. Subject: Accommodations for troops and other casuals returning from Europe. On file, Record Room, S. G. O., 632 (Hoboken, N. J.) N.

(47) Weekly bed report, Hospital Division, S. G. O., for week ending November 11, 1918.

SECTION III.

ORGANIZATION, ADMINISTRATION, AND CONTROL.

CHAPTER VI.

DIFFERENTIATION OF GENERAL, BASE, AND CAMP HOSPITALS.

Prior to the war, provision had been made for the establishment of various kinds of immobile hospitals, in the event of war, to care for the sick and wounded. The differentiation of these hospitals was based primarily on the military reasons for their separate existence at a given locality, which necessarily also predetermined their character and magnitude; and, secondly, the character of the care and treatment it reasonably could be presumed they would be enabled to furnish those admitted to them. The military elements which influenced their location and their character placed them roughly into two groups, viz: Those in the service of the interior and those in the field of operations.[1] The hospitals in the service of the interior included camp and general hospitals; base hospitals were intended for the theater of operations in the zone of the line of communications.[1]

CAMP HOSPITALS.

The designation camp hospital referred to a partially immobilized unit, organized and equipped for use in camps where the care of sick would otherwise result in the immobilization of field hospitals or other sanitary formations pertaining to organizations.[2]

The equipment and personnel of a camp hospital varied with the requirements of the situation. The essential feature to be borne in mind is that the activities of a camp hospital were ordinarily restricted to the camp in which it was located.

GENERAL HOSPITALS.

General hospitals were maintained for the following purposes:[3] (1) To afford better facilities than could be provided at ordinary military hospitals for the study, observation, and treatment of serious, complicated, or obscure cases. They were equipped with the best and most modern apparatus for the study and treatment of such cases and maintained a specially qualified personnel. (2) They offered opportunities for the performance of the more difficult or formidable surgical operations, facilities for which were ordinarily lacking at other classes of hospitals. (3) To study and finally dispose of cases that resisted prolonged treatment elsewhere and to determine questions of existence, cause, extent, and permanence of mental and physical disabilities of long standing or unusual obscurity. (4) To instruct and train junior medical officers in general professional and administrative duties. (5) To form a nucleus for the development of the larger hospitals required in the home territory in time of war.

General hospitals were under the exclusive control of the Surgeon General, except in matters pertaining to the administration of military justice, and were governed by regulations prescribed by the Secretary of War.[4] The senior medical officer commanded and was not subject to orders of local commanders other than those of territorial departments to whom specific delegation of authority may have been made.[4]

The standard size of general hospitals, contemplated prior to the war, was 500 beds.[5] Complete plans and specifications for the erection of temporary hospitals of this capacity, for use in time of war or other emergency, were prepared and kept on file in the Office of the Surgeon General.[6] General hospitals were ordinarily self-contained: being apart from concentrated troops they were of necessity provided an independent water supply, sewage disposal system, power plant, electric service, etc.; whereas in hospitals erected for local service, these utilities were a subsidiary part of those provided for organizations served. Being established apart from other troops, general hospitals cared for sick and wounded from diverse localities in which commands were operating, and for this reason were known as general hospitals, rather than from the fact that within them diseases and injuries of a diversified character were treated. In the former sense, the term was first used in America in application to the general hospital instituted at Cambridge, Mass., for troops of the Colonial Army during the American Revolution.[7]

BASE HOSPITALS.

The designation base hospital was primarily intended for the class of hospitals, of 500-bed capacity, normally established in the line of communications—a part of the theater of operations—for the reception of patients from the field and evacuation hospitals, as well as cases originating in the line of communications, and to give them definitive treatment. It was intended that they should be well equipped for such treatment, so that it would be necessary to send to home territory only patients requiring special treatment, or those who might be in such condition as to be regarded as either permanently disabled or likely not to recover within a reasonable time.[8] It was presumed that these base hospitals would remain more or less fixed, geographically; but provisions were made for their replacement in some more advanced situation, made essential by the movements of armies. For this reason the housing equipment was normally tentage,[9] but existing buildings were to be used when suitable and available.[10]

The first application of the designation, in peace times, was to the post hospital, Fort Sam Houston, Tex., when, on November 3, 1915, it was officially designated a base hospital by the Secretary of War.[11] On September 28, 1916, this hospital became the Department Base Hospital No. 1;[12] and shortly thereafter four more department base hospitals were established, Nos. 2 to 5, inclusive, in the Southern Department.[13] All these base hospitals functioned to give definitive treatment to members of variously situated commands within the department in which they were located, which was presumed to be more highly specialized than was possible of attainment in the smaller hospitals. They operated under the supervision of the department surgeon. In this respect they differed from general hospitals, which, as has been mentioned, were supervised directly by the Surgeon General, as well as in the fact that patients might be transferred from them to general hospitals for more formidable operations or more highly specialized treatment. The general hospitals represented the Army's ultimate recourse in hospitalization.

MODIFIED APPLICATION OF THE DESIGNATION BASE HOSPITAL DURING THE WAR.

The plan for National Army cantonments [14] and National Guard camps [15] contemplated the provision of a base hospital of 1,000 beds for each cantonment and camp.

The numerical designations of these hospitals were selected from blocks of numbers as follows:[16] For base hospitals in National Army cantonments, in a series beginning with 101; for base hospitals in National Guard camps, in a series beginning with 301. Later, this system of designation was changed to provide a single series of numbers for all base hospitals, beginning with number one.[17] To eliminate the confusion that arose incident to base hospitals in the United States and those intended for, or actually with the American Expeditionary Forces, bearing the same designation numbers, instructions were issued by the War Department directing the designation of all base hospitals, other than those on or destined for service overseas, by the locality in which they were situated.[18] A numbered base hospital at a given cantonment or camp then became officially known as United States Army Base Hospital, Camp Blank, by practice abbreviated to Base Hospital, Camp Blank. As a class these base hospitals at the large cantonments and camps were frequently referred to as camp base hospitals, to distinguish them from the department base hospitals.[19]

DIVIDING LINE BETWEEN BASE HOSPITAL AND CAMP.

Army regulations gave to territorial department commanders the command of all military forces within the limits of their respective commands, except those exempted by the Secretary of War.[20] The War Department, in the summer of 1917, included divisions to be organized among forces exempted from departmental command;[21] and, in October of the same year, added troops "attached thereto," to the exempted list,[22] placing the latter under the jurisdiction of the camp or division commanders.[23] This latter provision made the base hospital clearly a unit of the camp; and gave to the camp surgeon, on the staff of the commanding general of the camp, supervisory control of the sanitation of the hospital.[24]

It was the desire of the Surgeon General that camp surgeons should not interfere in any way with the internal administration of base hospitals,[25] but that the commanding officers thereof should be given every opportunity to function independently, as contemplated in Army Regulations.[26] He therefore issued instructions early in the war period defining what connection base hospitals would have with the War Department, both directly and indirectly.[27] In these instructions it was specified that the sick and wounded reports should be forwarded to the Surgeon General's Office direct, that the hospital fund statement should be approved by the commanding officer of the hospital, that no separate sanitary report would be made by the hospital but that the hospital should be included in the general camp sanitary report. It was further specified that commissioned personnel of base hospitals would be assigned by War Department orders, which fact precluded reassignment except by the same authority.

REFERENCES.

(1) Manual for the Medical Department, 1916, par. 586.
(2) Ibid., par. 602.
(3) Ibid., par. 283.
(4) A. R. 1439, 1913.
(5) Manual for the Medical Department, 1916, par. 289.
(6) Plans and specifications for base and stationary hospitals. Surgeon General's Office, October 30, 1906. Copy on file, Historical Division, S. G. O.
(7) Brown, H. E., Medical Department of the United States Army, 1775–1873. Office of the Surgeon General, 1873, 15.
(8) Manual for the Medical Department, 1916, par. 762.
(9) Ibid., par. 892.
(10) Ibid., par. 757.
(11) Letter from the Surgeon General to The Adjutant General, October 9, 1915. Subject: Base Hospital at Fort Sam Houston; and third indorsement thereon. On file, Record Room, S. G. O., 154274 (Old Files).
(12) Letter from the Surgeon General to The Adjutant General, September 7, 1916. Subject: Designation of base hospitals; and indorsements thereon. On file, Record Room, S. G. O., 154274 (Old Files).
(13) Letter from the Surgeon General to The Adjutant General, June 29, 1916. Subject: Base hospitals. On file, Record Room, S. G. O., 154274 (Old Files). *Also*, letter from the Surgeon General to the Department surgeon, Southern Department, August 26, 1916. Subject: Base hospitals. On file, Record Room, S. G. O., 154274 (Old Files).
(14) Memo. No. 1, Office of the Surgeon General, August 22, 1917.
(15) Memo. No. 2, Office of the Surgeon General, August 22, 1917.
(16) G. O. No. 115, W. D., August 29, 1917.
(17) G. O. No. 20, W. D., February 21, 1918.
(18) G. O. No. 35, W. D., April 15, 1918.
(19) Letter from the Surgeon General to all camp base hospitals. (Undated.) Subject: Appointment of morale officers. On file, Record Room, S. G. O., 211, Medical Record Division.
(20) A. R. 91, 1913.
(21) G. O. No. 96, W. D. July 20, 1917.
(22) G. O. No. 137, W. D., October 30, 1917.
(23) Bull. No. 67, W. D., November 30, 1917.
(24) A. R. 1387, 1913.
(25) First indorsement, Surgeon General's Office to commanding officer, Base Hospital, Camp MacArthur, December 21, 1918. On file, Record Room, S. G. O., 322.3 B. H., Camp MacArthur (D).
(26) A. R. 13 to 19, 1913.
(27) Letter from the Surgeon General to division surgeons. (Undated) Subject: Regulations, base hospitals. On file, Medical Record Division, S. G. O., 188799–27 (7).

CHAPTER VII.

PERSONNEL.

TABLES OF ORGANIZATION.

The personnel contemplated for a 500-bed hospital in tables of organization prior to the war, was as follows:[1] 20 medical officers, 1 colonel (commanding), 1 major (operating surgeon), 18 captains and lieutenants (1 adjutant, 1 quartermaster, 1 pathologist, 1 eye, ear, nose, and throat specialist, 2 assistant operating surgeons, 12 ward surgeons); 1 dental surgeon, 8 sergeants first class (1 general supervisor, 1 in charge of office, 1 in charge of quartermaster supplies and records, 1 in charge of kitchen and mess, 1 in charge of detachment and detachment accounts, 1 in charge of patients' clothing and effects, 1 in charge of medical property and records, 1 in charge of dispensary); 16 sergeants (1 in dispensary, 2 in store room, 1 in mess and kitchen, 4 in office, 2 in charge of police, 6 in charge of wards); 14 acting cooks; 115 privates first class and privates (68 ward attendants, 3 in dispensary, 5 in operating room, 1 in laboratory, 14 in kitchen and mess, 6 in store rooms, 4 orderlies, 5 in office, 4 outside police, 1 assistant to dentist); 46 nurses, female (1 chief nurse, 1 assistant to chief nurse, 41 in wards, 2 in operating room, 1 dietist).

Because of the fact that the majority of the larger mobilization camp hospitals had a contemplated initial bed capacity of 1,000,[2] the personnel referred to above was necessarily augmented.

The organization of these hospitals was based on the fact that the personnel—officers, nurses, and enlisted men—was almost entirely drawn from civil life, a personnel new to Army life and methods. Efforts were made to assign a competent medical officer of the Regular Army in command of each hospital, with three or four regular noncommissioned officers for the training of the enlisted force, and as a nucleus for an organization.

These hospitals were in reality large general hospitals planned for the definitive care and treatment of every sort of ailment, and experience soon demonstrated that the type of work required necessitated a personnel much in excess of that formerly contemplated.

The following table of organization for a permanent staff for a 1,000-bed hospital was adopted: 1 colonel or lieutenant colonel and 4 majors, M. C.; 1 captain or lieutenant, Q. M. C.; 2 captains or lieutenants, S. C.; 12 captains and 13 lieutenants, M. C.; 2 captains or lieutenants, D. C.; 400 enlisted men; 100 nurses, A. N. C.[3]

OFFICERS.

Original assignments of medical reserve officers to base hospitals were made by the Surgeon General in order that these officers might be detailed to the duty most suitable to their training. Those assigned in the various specialties were carefully selected from among officers known to be especially qualified.[4]

The Medical Department had no mobilization camps, except the medical officers' training camps, the total authorized quota of which was only 3,000.[5] In consequence of this, many medical officers went directly from civil life to camps,[6] and the policy was adopted of sending all who could be accommodated to the hospitals at camps for experience and training.[7] This resulted in doubling and, in some instances, trebling the hospital staffs; and in overcrowding; but it was beneficial because of the training received and the provision, at all times, of a staff sufficient for any emergency. A subsequent policy was adopted to assign to base hospitals, in general, only those officers, except a certain number for training in the organization of base hospitals for service abroad, found to be not physically suitable for active field service.[8]

In the late fall of 1917, it became apparent that a certain proportion of medical officers who had gone directly from civil life into the hospitals were not being qualified for their duties as rapidly as desired by the Surgeon General.[6] It was then directed that both officers and enlisted men be given training which would best fit them for base hospital work.[8] An outline of instruction was promulgated, specifying that as much of it as possible be utilized in connection with the daily work and duties so as not to interfere with the efficiency of the hospital work.[9] This established course of instruction made essential the recognition of the fact that not all of the newly commissioned medical officers were equal professionally. The substandard grouping came into existence and a simpler course of instruction was instituted for medical officers found lacking in the knowledge of basic technique of medical practice.[7]

Many changes in the professional personnel were required, largely due to the fact that it was next to impossible to correctly grade the many men suddenly brought into the service. Then, too, certain officers whose names had been requested for service in Red Cross and evacuation hospitals intended for service overseas necessitated staff changes when the officers concerned joined their units. This prompted the Surgeon General to direct commanding officers of hospitals to report the names of those suitable for the formation of a permanent staff, both administrative and professional, omitting exempted officers.[10] The instructions provided for supplementing the permanent staff by officers assigned for temporary duty, upon the request of the commanding officer of a hospital; and, in addition, the assignment, from time to time, of two classes of officers for temporary duty, officers assigned for observation and training; substandard officers, or those below par professionally, assigned for professional instruction.

NURSES.

Nurses were assigned to hospitals in the ratio of 1 to 10 beds,[10] the assignments being made from time to time on requisitions by commanding officers of hospitals.[10] Certain of these nurses were members of base hospitals organized for duty overseas, and for this reason their service at the fixed hospitals in the United States was modified so as to except them from duty in connection with the care of patients with contagious or infectious diseases.[10]

The distribution of nurses within the hospitals was as follows: Chief nurse (with one or more assistants);[11] head nurses, designated by the chief nurse, one to each ward, including venereal and psychopathic wards;[10] and ward nurses, for day and night duty.

To supplement the supply of graduate nurses a plan was devised providing a constructive method of utilizing the services of unskilled women.[12] To this end, in the summer of 1918, the Army School of Nursing was established, with branch schools in various military hospitals in the United States.[13]

The 1,800 student nurses placed in training made no appreciable contribution, from the standpoint of numbers, to the nursing service in the war. The experiment demonstrated, however, its potential value in the event of a similar contingency.

ENLISTED PERSONNEL.

The enlisted personnel, like the officers and nurses, was almost entirely made up of untrained material at the first, and was acquired largely through original enlistments for the Medical Department, and the instrumentality of the draft.[14]

The following table, showing the various proportions of noncommissioned officers, cooks, privates first class, and privates, with the total enlisted detachment for hospitals of varied sizes, was used as a working basis in determining the enlisted strength of given hospitals:

TABLE 8.—*Number of enlisted men assigned to different-sized hospitals.*[15]

Beds.	Master hospital sergeants not to exceed—	Master hospital sergeants or hospital sergeants.	Sergeants, first-class.	Sergeants.	Corporals.	Total noncommissioned officers.	Cooks.	Privates, first-class.	Privates.	Total.
200	1	1	8	15	3–5	(a)	12	127	31	200
500	1	3	10	22	10	45	14	201	40	300
800	1	3	13	27	12	55	17	240	48	360
1,000	2	4	16	28	12	60	19	267	54	400
1,100	2	4	16	30	12	62	20	286	57	425
1,200	2	5	16	30	13	64	21	305	60	450
1,300	2	5	17	31	13	66	22	323	64	475
1,400	2	5	17	32	14	68	23	341	68	500
1,500	2	5	18	33	14	70	24	359	72	525
1,600	2	5	18	34	15	72	25	378	75	550
1,700	2	5	20	34	15	74	26	396	79	575
1,800	3	6	20	35	15	76	27	415	82	600
1,900	3	6	21	35	16	78	28	433	86	625
2,000	3	6	21	36	17	80	29	451	90	650

[a] Limited to 30.

It was impossible, of course, to supply hospitals with noncommissioned officers in the numbers allowed in the table;[16] and it was expected that promotions to these grades would be made from the available material in the detachments.*

Authority was given commanding officers to make promotions to all grades, Medical Department, to and including sergeant, first class, within the limits provided by the table.[17] Promotions to the grades of master hospital sergeant and hospital sergeant were made by the Surgeon General on recommendations of commanding officers of hospitals.[17]

The Surgeon General appreciated the fact that no ironclad rules could be established in restricting the personnel, and he instructed commanding officers of hospitals to make application for additional enlisted men in the event of an emergency requiring larger numbers.[18]

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* For details of methods used in determining assignments and promotions of enlisted personnel, Medical Department, as practiced in base hospitals, the reader is referred to the history of the United States Army Base Hospital, Camp Grant, Ill., p. 206 of this volume.

A detachment of the Quartermaster Corps, consisting of 1 officer, captain or lieutenant, 2 quartermaster sergeants, 1 sergeant, first class, 7 sergeants (1 stenographer, 1 clerk, 1 overseer, 1 blacksmith, 1 carpenter, 1 engineer), 3 corporals (1 storekeeper, 2 chauffeurs), 1 cook, 2 privates, first class (firemen), 5 privates (laborers), was furnished by the Quartermaster General's Office, for duty about the hospital.[18]

CIVILIAN EMPLOYEES.

Though the military personnel provided for the hospitals was considerable and ordinarily adequate to operate the various hospital services, not all positions therein were filled by them. The base and general hospitals rapidly acquired a highly specialized character which could not have been foreseen, and to meet the demands of the elevated standards, as well as to conserve personnel, especially officer personnel, civilians possessed of the required training were employed. This was especially true in the laboratories, where women technicians were employed [19] in the proportion of 1 to every 250 beds, for work in urinalysis and clinical microscopy, preparation of media, bacteriological sections, Wassermann and serologic reactions, keeping records, stenography, typewriting, etc.

For employment in connection with the reconstruction activities of hospitals, women, trained in occupational therapy and physiotherapy, were secured as aides.[20]

The dietitian service was an innovation in the war hospitals.[21] It consisted of women employees, especially trained in the preparation of food, who were largely utilized for supervising the preparation of the special diets for the sick. At the time of the signing of the armistice there were 272 of these dietitians distributed among 97 base, general, and post hospitals of the United States. Some of the larger hospitals had as many as 10 dietitians.

The students of the Army School of Nursing, branches of which were established in all military hospitals, were on a civilian employee status while in training.

HOSPITAL SERVICES.

Military hospitals differed materially from hospitals in civil life, aside from the class of patients treated and the character of diseases and injuries encountered within them, in that there was necessitated provision for quarters for officers and barracks for enlisted men, as well as quarters for the nurses. In addition to buildings used for administering the hospital or for housing or feeding the patients, or for heating, there had to be buildings for other purposes, included not only in the professional division—isolation, special therapy, etc.—but for the special administrative control, such as a guardhouse, post exchange, storehouse, etc.

It will be readily appreciated that the services of a large military hospital, when roughly divided into two divisions, formed groups of almost equal magnitude, the administrative division, in fact, slightly overshadowing the professional; so, from the experience gained in administering the general hospitals of peace times, the Medical Department was enabled to plan, fairly accurately, what would be needed in the way of the provision of services for the large war hospitals.

The following tabular statement was formulated to furnish a working plan of administration and to give an approximate idea of the personnel required:[22]

ADMINISTRATION DIVISION.

Commanding officer:

1 colonel or lieutenant colonel, M. C.

Adjutant's office (in charge of administrative records and correspondence, telegraph office, telephone exchange, and post office):

1 major, M. C.
2 sergeants, first class, H. C.
11 privates, H. C.
1 sergeant, Sig. C.
1 first-class private, Sig. C.
2 civilian employees, M. D. (stenographers).

In charge of medical and surgical records; commanding officer, detachment of patients; in charge of patients' money and valuables:

1 major or captain, M. C.
2 sergeants, first class, H. C.
1 sergeant, H. C.
6 privates, H. C.

Quartermaster's office (in charge of quartermaster, medical, ordnance, and Signal Corps property and funds; construction and repair of buildings; transportation; police and care of grounds; disinfecting, laundry, heating, lighting and ice plants; clothing and baggage room of patients):

1 major or captain, M. C.
1 captain or lieutenant, M. C.
2 sergeants, first class, H. C.
5 sergeants, H. C.
22 privates, H. C.
2 quartermaster sergeants, Q. M. C.
1 sergeant, first class, Q. M. C.
7 sergeants, Q. M. C. (1 stenographer, 1 clerk, 1 overseer, 1 blacksmith, 1 plumber, 1 carpenter, 1 engineer).
8 corporals, Q. M. C. (1 foragemaster, 1 storekeeper, 1 baker, 1 printer, 1 painter, 1 farrier, 1 saddler, 1 gardener).
1 cook, Q. M. C.
7 privates, first class, Q. M. C. (5 teamsters, 2 firemen).
5 privates, Q. M. C. (laborers, scavengers, etc.).
Civilian employees (seamstresses, laundry employees, attendants, scrub women, etc.).

Hospital mess (in charge of hospital messes, kitchens, bakery, and special diet service; post exchange; hospital fund):

1 captain or lieutenant, M. C.
2 sergeants, first class, H. C.
4 sergeants, H. C.
10 acting cooks, H. C.
30 privates, H. C.
4 Army Nurse Corps (dietists).
6 civilian employees M. C. (1 chief cook, 2 cooks, 2 assistant cooks, 1 baker).

Commanding officer, detachment, H. C. (in charge of detachment, H. C., on duty at the hospital; recruiting, identification work, and sick call):

1 captain or lieutenant, M. C.
1 sergeant, first class, H. C.
4 sergeants, H. C.
2 corporals, H. C.
5 acting cooks, H. C.
29 privates, H. C.

Officer of the day (detailed from roster of medical officers. In charge of the guard; receiving office, roster of patients and morning report of admissions and losses; ambulance, emergency, and fire-alarm service; information office):

3 sergeants, H. C.
6 privates, H. C.

Officer of the guard (detailed from roster of junior medical officers. Commands the guard under the direction of the officer of the day):

2 sergeants, H. C.
2 corporals, H. C.
24 privates, H. C.

This detail is made in time of war only and when the guard is not furnished by the line.

Chaplain (in charge of chapel, library, reading room, amusement hall, and post school):

1 officer, Corps of Chaplains.
1 private, H. C.

PROFESSIONAL DIVISION.

Chief of medical service (in charge of medical service, receiving ward, and dispensary):

1 major, M. C.
2 sergeants, H. C.
2 privates, H. C.

Chief of surgical service (in charge of the surgical service, including the operating and dressing rooms):

1 major, M. C.
1 captain or lieutenant, M. C.
1 sergeant, H. C.
4 privates, H. C.
5 Army Nurse Corps.

Wards (ward officers may be assigned additional duties in eye, ear, nose, and throat, genito-urinary and other special services; assistants to operating surgeon, etc.):

12 captains or lieutenants, M. C.
6 sergeants, H. C.
70 privates, H. C.
53 Army Nurse Corps.

Laboratory (in charge of chemical, bacteriological, and X-ray laboratories, and morgue):

1 captain or lieutenant, M. C.
1 sergeant, first class, H. C.
2 sergeants, H. C.
4 privates, H. C.

Dental service (in charge of dental service):

1 lieutenant, D. C.
1 private, H. C.

Nursing service (in charge of nursing service)·

1 chief nurse, A. N. C.
1 assistant chief nurse, A. N. C.
1 supervising night nurse, A. N. C.
7 civilian employees, M. D. (1 cook, 1 assistant cook, 5 attendants). (See also Wards and Hospital mess.)

Convalescent camp:

1 captain or lieutenant, M. C.
1 sergeant, first class, H. C.
1 sergeant, H. C.
6 privates, H. C.

NOTE.—The term "private, H. C." is used in the above table to denote both privates, first class, and privates, H. C.

(*a*) The allowance of the members of the Quartermaster Corps or their civilian substitutes and of the civilian employees of the Medical Department will vary according to the character and special work of the hospital, and will be decided in each case by the proper authority. (For the duties of the several grades in the Quartermaster Corps see "Quartermaster Corps" in the Appendix.)

(*b*) In time of war 25 per cent of the officers of the professional division, 25 per cent of the ward attendants, and 75 per cent of the nurses might be furnished by personnel from the American National Red Cross Society. This corresponds approximately to one Red Cross hospital column.

On November 11, 1917, the Surgeon General issued instructions providing for three services; namely, surgical, medical, and laboratory, with a chief of service for each; and provided, further, that the services include the following special sections, to be used in whole or in part as found necessary (500-bed basis): [23]

SURGICAL SERVICE.

1 chief of service.
4 surgeons—
    General.
    Chest.
    Abdomen.
    Fractures.
1 surgeon (orthopedic).
1 surgeon (urology).
4 surgeons (head section)—
    Brain.
    Eye.
    Ear, nose, and throat.
    Plastic (face and mouth).
1 roentgenologist.
2 dentists.

MEDICAL SERVICE.

1 chief of service.
4 physicians (including 1 neurologist).
1 or 2 psychiatrists (in hospitals of camps in the United States).

LABORATORY SERVICE.

(Pathology, bacteriology, serology, chemistry, morgue, and public health laboratory work for the command.)

1 chief of service (pathology, bacteriology, and serology).
1 assistant.

(All other laboratory workers to be under the chief of this service.)

At some hospitals there was a mistaken policy of dividing the organization into 8 or 10 divisions in order to place the specialists on the same footing in importance as the major divisions of general surgery and medicine.[24] This impediment to efficient administration was soon corrected, but not until after some confusion had resulted. In some hospitals, the organization was never completely straightened out.

INSTRUCTION.

It was early provided that such clinics, lectures, classes, and study as were found to be necessary for the training of commissioned and enlisted personnel be instituted at all hospitals.[25]

INSTRUCTION OF OFFICERS.

An outline of instruction for use in the training of medical officers in their duties at base hospitals was provided by the Surgeon General;[26] and it was suggested that officers who had been especially selected for training in the administrative division be detailed as assistants to the commanding officer, adjutant, registrar, mess officer, etc., to afford them opportunities to familiarize themselves with the details of routine duty connected with these offices.[27]

Officers were placed in two main classes:[28] first, those found by observation to be professionally qualified; and, second, those who soon proved themselves to be substandard through inadequate professional education. No definite period was set for the training of substandard men to remedy their defects. It was provided that the training continue so long as there was apparent profit.

The following outline of instructions was used in the training of professionally qualified temporary officers in the duties of medical officers at base hospitals, in connection with clinics and demonstrations:[26]

ADMINISTRATION.

Lectures by the commanding officer, and such officers of the base hospital staff as have had previous experience and training in administrative subjects. These lectures to deal particularly with base hospital regulations and duties, with specific instruction in the duties of commanding officer, adjutant, registrar, mess officer, supply officer, commanding officer of detachments, and ward administration. Such courses of study and recitation will be prescribed in Army Regulations, Manual for the Medical Department, and other manuals as are necessary and practicable.

MEDICAL SUPPLY OFFICERS.

1. The supply tables:
    (*a*) Classification of supplies.
    (*b*) Nomenclature of supplies.
    (*c*) Normal allowance of various medical department units. (Pars. 474–476 and 842–959, Manual for the Medical Department, 1916.)
2. Requisitions. (Pars. 474–495.)
3. Transfer of medical supplies. (Pars. 496–500.)
4. Accountability. (Pars. 501–503.)
5. Distribution of field supplies in time of peace. (Pars. 504–506.)
6. Distribution in zone of advance. (See Field Service Regulations.)
7. Replenishment in combat. (Pars. 551–554 and 858.)
8. Returns of medical property. (Pars. 507–508.)
9. Sales of medical property. (Pars. 509–510.)
10. Distribution of medical property on abandonment of post. (Par. 511.)
11. Use and care of medical property. (Pars. 512–526.)
12. Base medical supply depots. (Pars. 782–786.)
13. The advance medical supply depot. (Pars. 787–792.)

INTERNAL MEDICINE (BY CHIEFS OF MEDICAL SERVICE).

This course of instruction is intended to familiarize medical officers serving with troops in the field with the more important diseases which they may encounter, their diagnosis, and the means or their prevention and treatment, with a view to securing prompt and suitable action when such cases arise. It is not the purpose of this instruction to make regimental officers hospital specialists, but to indicate to them their part in the teamwork of the Medical Department which will result in each sick soldier receiving promptly the best treatment, whether that be in the regimental field hospital, at the base hospital, or in special general hospitals, and will make them most efficient in preventing the spread of disease among the troops.

I. Examination of recruits.
    1. Methods of examination of the heart.
    2. Principles of interpretation.
    3. Causes for rejection.
    4. Cardiovascular diseases which are most often overlooked in recruiting.
    5. Border-line cases and difficult decisions.
II. Examination of the lungs.
III. Disorders of the heart common in soldiers.
    1. The soldier's heart, symptoms, causes, prevention, treatment, including projected special hospitals, and prognosis, military, and individual. Emphasis on the importance of observations of recruits during training by regimental medical officers and overseas. The importance of a sufficient period for convalescence and re-training after acute infections, in particular influenza, trench fever, and diarrhea.

IV. Tuberculosis in the soldier.

V. Lobar pneumonia. The newer knowledge of the fixed types of pneumococci, the means of determination of the type for specific treatment, treatment of Type I, infections by serum; symptoms and physical signs of pneumonia in the first few days and the importance of early diagnosis; prognosis in the different types.

VI. The acute respiratory infections, sore throats, and diphtheria.

1. Importance of acute colds and bronchitis as forerunners of pneumonia; complications of acute respiratory infections, especially infection of the accessory sinuses and middle ear.
2. Tonsillitis, pharyngitis, etc. Importance of throat cultures in all cases; complications, especially acute nephritis, endocarditis, and other forms of streptococcus sepsis; importance of urine examination after tonsillitis before return to duty.
3. Diphtheria, diagnosis, antitoxin treatment; carriers of the virulent and avirulent bacilli and modes of dealing with them. Carriers after an attack usually harbor bacilli in the tonsils and are even rendered free by tonsillectomy. The Shick reaction and its value in determining the need for immunization of a group of individuals.

VII. Epidemic meningitis and poliomyelitis.

1. Importance of epidemic meningitis among troops in camps and barracks.
2. Early symptoms and diagnosis.
3. Lumbar puncture and exact diagnosis.
4. Serum treatment including strains of meningococci and bearing on failure of serum treatment as in the epidemic among Canadian and British troops early in the war.
5. Carriers and the great importance of their detection and isolation. Improved methods for the treatment of carriers.
6. A brief sketch of poliomyelitis with reference to the more acute forms and possibility of confusion with meningitis, either epidemic or tuberculous.

VIII. The exanthemata.

1. Measles; early diagnosis, especially Koplik spots; treatment and prevention with special reference to Colonel Munson's observations on sun and air.
2. German measles and its differential diagnosis from measles.
3. Scarlet fever; early diagnosis, prevention; the important complications in the throat, heart, kidneys, and joints; combined scarlet fever and diphtheria.
4. Typhus fever; modern knowledge of transmission by the louse; frequency in prison camps, etc.; symptoms and diagnosis of mild and severe forms; prevention.
5. Smallpox; recognition of mild cases of varioloid.

IX. The malarial fevers; mode of treatment and prevention.

1. Treatment of tertian malaria and of estivoautumnal with special reference to the need for continued used of quinine; treatment of pernicious malaria, intravenous and intramuscular use of quinine dihydrochloride.
2. The animal parasites, especially hookworm; treatment by oil of chenopodium; prevention.

X. Dysentery and diarrhea.

1. Bacillary dysentery, its causes, symptoms, treatment, and prevention.
2. Amebic dysentery; diagnosis and difference in symptoms from those of bacillary dysentery; treatment by emetine; importance of early treatment of acute stage; general treatment; amebic cysts and carriers.
3. The nonspecific diarrheas; causes, prevention, importance of treatment and safeguarding for a few days subsequently.

XI. Typhoid and paratyphoid fevers and trench fever.

1. Typhoid and paratyphoid with reference to modes of infection and importance of general prophylaxis. Specific immunization; diagnosis in the immunized; carriers.
2. Trench fever; its symptoms, diagnosis, wholly favorable prognosis; need for rest and for safeguarding during convalescence; theories as to causation and transmission.

XII. Nephritis, infectious jaundice, and tetanus.

1. Acute nephritis as seen at the Western Front.
2. Infectious jaundice and spirochetal infections.
3. Tetanus; its prevention; symptoms of mild tetanus; treatment by intraspinous antitoxin.

XIII. Gas poisoning; its symptoms, diagnosis, prognosis, and treatment.

SYLLABUS OF INSTRUCTION IN STANDARD METHODS FOR TREATING FRACTURES.

The purpose of this course of instruction is to familiarize medical officers with standard methods in the treatment of fractures. It is intended that officers so trained will not only serve in the special fracture hospital, but in field, base, and general hospitals, and as regimental officers as well, so that a continuity in the methods for treating fractures can be maintained. By this means, it is proposed to establish teamwork on the part of medical officers throughout the Army, in order that the wounded soldier will receive promptly the most efficient treatment whether at the regimental aid station, the dressing station, the field hospital, the evacuation hospital, or the base hospital, as well as along the lines of transportation. The logical result of this cooperation will be to secure early recovery, lessen deformity, and reduce the number of soldiers permanently disabled to a minimum. It is realized that the exigencies of the service in the zone of the advance will frequently be such as to render the standard methods impracticable, but by indicating clearly the desideratum it is hoped that the difficulties in the field will act not so much as an obstacle but as a stimulus to the ingenuity of the medical officers.

Fractures in war are usually compound and will be much more prevalent than the simple, so that any treatment which considers merely the fracture and not the wound and the soldier would be quite ineffective. Consequently, the course of instruction will be initiated with a brief but thorough presentation of wounds, from a military standpoint, their causes, and their treatment. This will be followed by the course in standard methods for treating fractures proper. The instruction will be intensely practical in nature, consisting in the demonstration of the splints, their adaptability and application, and in clinics.

CAUSES AND VARIETIES OF WOUNDS.

1. Bullet wounds.
    - *a.* Shrapnel.
    - *b.* Rifle.
    - *c.* Pistol.
2. Shell wounds.
    - *a.* Shell fragments.
    - *b.* Shell fuse.
    - *c.* Hand grenade.
3. Bayonet wound; sword wound.
4. Burns.
5. Gas.
6. Varieties of wounds.
    - *a.* Abrasion.
    - *b.* Contusion.
    - *c.* Laceration.
    - *d.* Puncture; complete or incomplete.

CONDITION OF WOUNDED MEN.

1. Hemorrhage, excessive (shock).
2. Exposure; wet, cold. Hunger.
3. Shell-shock.
4. Gas.
5. Visceral injury; abdominal, thoracic and head.
6. Infection; pyogenic, tetanus, gas bacillus.
7. Suppuration.

TREATMENT OF WOUNDS.

General.

1. Water administered.
    - *a.* Mouth.
    - *b.* Rectum.
    - *c.* Hypodermoclysis.
    - *d.* Intravenous. Dangers.
2. Food and hot drinks.
3. Medication.

Local.

1. Wound antisepsis.
   - *a.* Excision, necrotic tissue.
   - *b.* Wound cleansing, foreign body removal.
   - *c.* Tincture of iodine.
   - *d.* Dakin-Carrel method.
   - *e.* Dichloramine-T.
2. Hemorrhage.
   - *a.* Pressure by bandage. Cautions.
   - *b.* Packed. Cautions.
   - *c.* Tourniquet. Cautions.
   - *d.* Ligation of artery. Cautions.
   - *e.* Amputation. Indications.
3. Dressings.
   - *a.* Dry antiseptic.
   - *b.* Suture. Indications.
   - *c.* Drainage. Indications.
4. Infection.
   - *a.* Suppuration.
   - *b.* Gangrene.
   - *c.* Drainage.

FRACTURES.

At the dressing station:

1. General treatment.
2. Wound antisepsis. 2 per cent iodine superficial.
3. Wound cleansing.
4. Immobilization and extension methods.
   - I. Fractures of the upper extremity.
     - *a.* Simplest splint arm to chest.
     - *b.* Screen wire and wood splints.
     - *c.* If practicable, Thomas arm splint; elbow splint.
   - II. Fractures of the lower extremity.
     - *a.* Rifle down the side of leg with coat between legs and the legs lashed together.
     - *b.* Screen wire and wooden splints.
     - *c.* C. femur. Thomas knee splint for fracture of femur. In fracture of femur, the soldier once placed on litter is not to be removed therefrom.
   - III. Fracture of rib. Immobilization.
   - IV. Fracture of pelvis. Fixation. Not removed from litter.
   - V. Joints.
5. Infections. Special treatment.
   - *a.* Tetanus-serum.
   - *b.* Gas bacillus-aeration. Antitoxin.
   - *c.* Pyogenic.
6. Amputations, contraindications. Indications.
7. Anesthesia.
8. Diagnosis tags. These must be kept up to date, particularly with fractures.

TRANSPORTATION.

1. Cases sorted into transportable and nontransportable.
2. Maintenance of immobilization and extension, where practicable. Methods. Not more than 12 hours should elapse without the splint being inspected by a surgeon and necessary adjustments made.
3. Femur, special treatment for fractures of, in transit. Not to be removed from litter. Thomas knee splint inspected once every 12 hours.

EVACUATION HOSPITAL, SPECIAL FRACTURE HOSPITAL, BASE HOSPITAL.

1. Early and adequate surgery.
2. Wound antisepsis.
3. Wound cleansing.
4. Conservation of fragments.
5. Immobilization and extension. Standard methods.
    - I. Fracture of upper extremity.
        - *a.* Humerus.
            - 1. Jones's humerus extension splint.
            - 2. Jones's abduction splint.
        - *b.* Elbow splint.
        - *c.* Radius and ulna. Jones's forearm and wrist splint.
    - II. Fracture of lower extremity.
        - *a.* Femur. Thomas knee splint; Hodgen splint, overhead suspension and extension from Balkan frame or on special fracture bed.
        - *b.* Tibia and fibula. Jones's leg splint and Cabot splint.
    - III. Fracture of rib. Immobilization.
    - IV. Fracture of pelvis. Fixation. Bradford frame.
    - V. Joints. Operative indications. Foreign body removal. Drainage.
6. Malunion and nonunion, caution; late tetanus and infection.
7. Infections; special treatment.
8. Operative treatment, indications for. Standard methods.
9. Amputation. Special.
10. Anesthesia. Ether drop method, chloroform; nitrous oxide; spinal, tropococaine.
11. Examinations, special methods.
    - *a.* Roentgen ray.
    - *b.* Bacteriological.
12. Massage and baking.
13. Hydrotherapy.
14. Curative workshop; reconstruction.

THORACIC WOUNDS.

- I. Causes and varieties of wounds.
    - 1. Bullet wounds.
        - *a.* Shrapnel.
        - *b.* Rifle.
        - *c.* Pistol.
    - 2. Shell wounds.
        - *a.* Shell fragments.
        - *b.* Shell fuse.
        - *c.* Hand grenade.
    - 3. Bayonet wound, sword wound.
    - 4. Varieties of wounds.
        - *a.* Laceration. Thoracic wall. Back.
        - *b.* Perforating (puncture) wounds—complete, incomplete.
        - *c.* Concussion of spinal cord—brachial plexus.
        - *d.* Pseudo-perforating wound.
- II. Pathology.
    - 1. Shock.
    - 2. Hemorrhage.
    - 3. Dyspnea.
    - 4. Hemoptosis.
    - 5. Vomiting and hiccough.
    - 6. Death, immediate causes of.
    - 7. Infection.
        - *a.* Pyogenic.
        - *b.* Tetanus.
        - *c.* Bacillus—aerogenes.
    - 8. Surgical emphysema.

III. Clinical aspects.
    1. Pneumothorax.
    2. Hemothorax.
    3. Pyothorax (empyema)
    4. Fracture of ribs.
    5. Pneumonia.
    6. Pleurisy—effusion.
    7. Abscess and gangrene of lung.
    8. Subphrenic abscess.
    9. Pericarditis. Pneumocardium.
    10. Paralysis—monoplegia, paraplegia.
    11. Sequelæ.

IV. Treatment.
    1. Immediate firing line, regimental aid, or dressing station.
        a. General care. Water. Hot drinks. Blankets.
        b. Wound antisepsis.
        c. Hemorrhage.
        d. Wound cleansing; if practicable.
        e. Dressing. Dry gauze, graduated pressure.
        f. Posture of patient—recumbent on affected side. If practicable not disturbed. No walking.
        g. Medication. Morphine. Atropine.
        h. Transportation. Rest one of main factors in treatment.
    2. Intermediate. Regimental aid. Dressing station.
        a. General care. Food. Water. Hot drinks. Blankets.
        b. Wound antisepsis.
        c. Anesthesia. Chloroform; ether; drop method.
        d. Wound cleansing. Operation. Indication for. Foreign body, removal.
        e. Dressings. Immobilization of affected side.
            1. Fresh cases.
            2. Suppurative cases.
                Dichloramine—T.
                Carrel-Dakin.
                Moist dressing.
        f. Medication.
    3. Field hospital, evacuation hospital, base hospital.
        a. Examination, special methods.
            Bacteriological.
            Roentgen ray.
        b. Operations. Special methods. Indications.
        c. Suppuration; treatment of.
        d. Complications, special treatment for.

ABDOMINAL WOUNDS.

I. Variety of wounds.
    1. Contusions.
        a. Abdominal wall.
        b. Ruptured viscera, or blood vessels.
    2. Puncture wound of abdominal wall (nonpenetrating).
    3. Penetrating wounds (nonperforative of viscera, or blood vessels).
    4. Perforating wounds.

II. Pathology.
    1. Shock.
    2. Hemorrhage.
    3. Infection.
        a. Pyogenic.
        b. Tetanus.
        c. Bacillus aerogenes.
    4. Protrusion of viscera.
    5. Perforation, visceral.
    6. Peritonitis.
    7. Extraperitoneal infection.

III. Diagnosis. Early differential.

IV. Clinical aspects.
  1. Hemorrhage.
  2. Perforation of hollow viscus, early symptoms.
  3. Extravasation, urine.
  4. Peritonitis.
  5. Abscess; subphrenic, perirenal; pelvis.
  6. Septicemia.

V. Treatment.
  1. Immediate, firing line, regimental aid, or dressing station.
    a. General care. Blankets. No water. No food.
    b. Wound antisepsis. Iodine.
    c. Dressings. Dry gauze.
    d. Posture of patient. On back, thighs flexed, head raised.
    e. Medication. Morphine.
    f. Transportation. Patient moved to adequate operating station as expeditiously as possible. Not removed from litter till operating station is reached.
  2. Mobile operating unit, field hospital, evacuation hospital.
    a. Wound cleansing.
    b. Operation; methods and indications for.
    c. Anesthesia; ether, chloroform-drop method.
    d. Roentgen-ray examination.
  3. Base hospital.
    a. Infections, special treatment for.
    b. Complications, treatment of.
    c. Roentgen-ray examination.
    d. Operations, methods and indications for.

OPHTHALMOLOGY.

Instructions in ophthalmology should include the following-named subjects:

1. Methods of testing visual acuity.
2. Methods of testing pupillary reaction. Significance of pupillary abnormalities.
3. The simpler methods of testing the ocular rotations and the associated movements of the eye, including convergence.
4. External examinations:
   (*a*) Method of everting the lids.
   (*b*) Examination with oblique light. Especial attention to its importance in detecting abrasions of the cornea, corneal ulcers, the presence of small foreign bodies and iritic adhesions. Use of fluorescin.
5. Epiphora and its significance.
6. Inflammation of the lacrymal apparatus.
7. Inflammation of the lids and globe. In general all cases of inflammation should suggest the following possibilities, arranged in the order of their importance:
   Glaucoma.
   Iritis.
   Conjunctivitis.
   Foreign body in the conjunctiva.
8. Trachoma and other contagious diseases of the conjunctiva.
9. Importance and significance of bacteriological examination in conjunctivitis.
10. Indications and contraindications for the use of mydriatics and miotics.
11. Wounds of the eye and orbital region.
12. The importance of a thorough examination in every case of injury of the globe.
13. The importance of X-ray examination in all cases when there is the slightest suspicion of the presence of a foreign body in the eye.
14. The use of magnets in military eye surgery.
15. Methods of testing and significance of increased intraocular tension. Glaucoma and its varieties.

16. Simple methods of determining the field of vision.
17. The significance of a double vision.
18. The causes of gradual and sudden loss of vision, with consideration of whether functional or organic.
19. Ocular malingering.
20. Eye symptoms in cases of increased intraocular pressure.
21. Ocular headaches, vertigo, and reflex gastric and nervous symptoms.
22. Ocular symptoms of disease and focal septic areas, as in alveolar abscess or sinusitis.

EAR.

1. Foreign bodies in the canal.
   Furunculosis of the canal.
   Acute otitis media.
   Acute mastoiditis.
   Sinus thrombosis.
2. Chronic otitis media. Polypi.
   Brain abscess.
   Bárány tests for vestibular function.
   Labyrinthitis.

NOSE AND THROAT.

1. Acute and chronic tonsillitis.
   Discussion of tonsil operations. Results of operations in preventing absorption.
   Peritonsillar abscess.
   Nasal obstruction.
   Deviation of the septum. Submucous resection of the septum.
2. Acute and chronic sinusitis.
   Antrum, frontal, ethmoid, sphenoid—polypi.
3. Epistaxis.
   Fracture of the nasal bones.
   Correction of external deformities of the nose.
   Catarrh.
   Atrophic rhinitis.
   Syphilis of the nose and throat.
4. Acute and chronic laryngitis, papilloma of the larynx—cancer.

5 (Optional). Direct inspection of the larynx and trachea.
   Foreign bodies in the trachea and bronchi.
   The direct examination of the esophagus.
   Diseases of the esophagus: Stricture, pouch, cardiospasm, cancer.
   Foreign bodies in the esophagus.

NEUROLOGICAL SURGERY.

Skull.

- Fractures.
  1. Varieties.
     - (*a*) According to mechanism—bending, bursting, expansile.
     - (*b*) Simple or compound.
     - (*c*) According to form of fragments—fissured, linear, comminuted, diastasis, depressed, perforating, gunshot.
     - (*d*) According to situation—vault, base.
     - (*e*) Infection and complications.
     - (*f*) Associated brain injuries.
     - (*g*) Associated injuries to cranial nerves.
     - (*h*) Associated injuries of blood vessels.
     - (*i*) Associated injuries of nasal accessory sinuses.
  2. Symptomatology.
  3. Prognosis.
  4. Diagnosis.
  5. Treatment.

Meninges.
1. Physiology of cerebrospinal fluid.
2. Meningitis.
    - Traumatic infective.
    - Pathology and bacteriology.
    - Symptomatology.
    - Diagnosis.
    - Prognosis.
    - Treatment.

Brain.
1. Localization of function.
    - (*a*) Excitomotor cortex.
    - (*b*) Sensory field.
    - (*c*) Visual cortex.
    - (*d*) Auditory cortex.
    - (*e*) Olfactory cortex.
    - (*f*) Cortical speech centers
2. Craniocerebral topography.
3. Symptomatology of organic disease.
    - (*a*) General symptoms.
    - (*b*) Local symptoms.
4. Brain abscess.
    - (*a*) Varieties.
    - (*b*) Pathology.
    - (*c*) Symptomatology.
    - (*d*) Treatment.
5. Technic of intracranial operations.
6. Roentgenography and stereoroentgenography in intracranial disease.

Spine.
1. Surgical anatomy of vertebral column.
2. Normal and pathological physiology of the cord.
3. Localization in the cord.
4. Symptomatology of spinal disease.
    - Cell destruction.
    - Tract degeneration.
    - Root symptoms.
    - Sensory disturbances.
    - Motor weakness and paralysis.
    - Reflex disturbances.
    - Bladder and rectum.
5. Variations in symptoms according to level.
6. The operative technique of laminectomy.
7. Extraction of foreign bodies.

Nerves.
1. Function.
    - (*a*) Motor.
    - (*b*) Sensory—epicritic, protopathic, deep.
2. Results of section of motor nerve.
3. Results of section of sensory nerve.
4. Nerve shock.
5. Diagnosis of nerve lesion (traumatic).
6. Technique of nerve suture.

PLASTIC AND ORAL SURGERY, SECTION OF SURGERY OF THE HEAD.

1. Surgical anatomy of the face and jaws, bones, teeth, accessory sinuses, soft parts.
2. Sepsis: Special forms of sepsis related to mouth, face, and neck treatment. Peridental infection. Infection of antrum of Highmore and other nasal accessory sinuses.
3. Wounds and injuries of the face and jaws, with special consideration of injuries by projectiles.

4. Fractures of the jaw bones, with special reference to gunshot fractures. Displacements. Emergency treatment. Special care of patient, tissues, etc. Diet. Special methods of fixation, splints, etc.
5. Treatment of deformities of bony and soft tissues following gunshot injuries of face and jaws. Orthopedic splints. Plastic operations. Grafting of soft tissues, bone, and cartilage.
6. Local anesthesia in surgery of face and jaws.
7. Interpretation of dental and maxillary roentgenograms.

FOOD AND NUTRITION.

1. The scientific background of nutrition.
2. The dynamic effect of the different foodstuffs.
3. The influence of muscular work on metabolism.
4. Complete and incomplete proteins.
5. Accessory foodstuffs.
6. Governmental regulation of food.
7. Feeding of European armies.
8. Protection against spoilage of foods.
9. Gastric digestion in man.
10. Work of the Food Division, Surgeon General's Office.

ORTHOPEDIC SURGERY.

1. *a.* The human foot; its physiology, examination, and the significance of its symptoms.
   b. The soldier's foot and the military shoe; prophylaxis.
   c. The disabilities of the foot arising during military service and their treatment.
   Synopsis. A review and an elaboration of the work done in these subjects in the course given in training camps.
2. Injuries to joints and their treatment.
   Synopsis. Also a review and elaboration of the preceding course.
3. *a.* Injuries to joints and their treatment.
   b. Special joints—the knee-joint, etc.
   Synopsis. The general subject will be continued and elaborated, and the special peculiarities of the knee-joint and other joints fully discussed.
4. Positions of election for ankylosis.
   Synopsis. The pathological changes leading to ankylosis and the clinical indications pointing to it will be fully explained. The positions of which the various joints are most serviceable will be definitely defined and the reasons for choice of these positions given.
5. The operative procedures available for restoration of function following failure of repair after nerve injuries.
   Synopsis. The difficulties involved in the repair of nerves will be fully discussed and the necessity for painstaking orthopedic care in order to secure a successful result after nerve suture emphasized. As alternative measures, where regeneration has failed to take place, tendon transplantation, tendon fixation, and certain bone operations are available, and their technic will be explained.
6. Nonunion and malunion.
   Synopsis. The various causes for nonunion and malunion will be reviewed and the operative procedures indicated discussed.
7. Bone grafting.
   Synopsis. The danger of operation, and particularly of bone operations, until all sinuses have been closed for at least six months will be strongly emphasized. The indications for bone grafting will be defined and the technic of the various procedures—spinal graft, inlay graft, bone peg—carefully explained.
8. Methods of fixation: Plaster of Paris.
   Synopsis. The general principles of fixation will be discussed, and the use of plaster of Paris in military work will be fully covered.
9. Methods of fixation: Standard splints.
   Synopsis. The standard splints will be demonstrated and their indications and use carefully explained.

10. Methods of fixation: Nonstandard splints.

Synopsis. Other splints and improvised splints will be demonstrated and their indications and use explained.

TUBERCULOSIS IN THE SOLDIER.

Signs of active lesion. The acute lesion. The chronic lesion; activity in chronic lesions; distinction between acute and chronic lesions by physical signs. Distinction by X ray; bronchopneumonic focus; diagnosis of large lesions, isolated or few in number; tuberculous pneumonia; development of caseous lesions; physical signs of tuberculous pneumonia in first stage, in stage of consolidation; cavity signs; recent cavitation; old and dry or nearly dry cavities. Disseminated tuberculosis; miliary (vascular) disseminations. Peribronchial tuberculosis; physical signs; varieties and prognosis; X-ray diagnosis.

Physical examination in tuberculosis.—Necessity of objective examination in military practice. Importance of cough as aid to diagnosis. Topical variations in physical signs in the normal lung. Marginal sounds. Diagnosis by auscultation; breath changes and their significance; kinds and significance of râles. Role percussion plays in diagnosis of chest conditions. Voice transmission; transmission of whisper.

Detection of tuberculosis among soldiers.—Repeated weighing of recruits; those losing weight under training to be specially examined. Tuberculosis usually discovered during an exacerbation; distinction between exacerbation of chronic tuberculosis and incipient active tuberculosis. Role of X ray in the diagnosis of tuberculosis. Question of line of duty (Circular 24, S. G. O., and its interpretation). Infection between adults. What is the danger, if any, of spread of tuberculosis among soldiers from contact with tuberculosis individuals? The hygiene of the tuberculous patient; feeding; indications for rest and exercise; hardening methods.

Examination of the lungs.—Stethoscope; necessary to have a stethoscope which fits the ears; Ford stethoscope; phonendoscope not to be used for routine work. Position of patient during examination. Steps in examination. Inspection; general appearance of patient; general shape of chest; retractions; lagging; diminished expansion; apex beat of heart; pericardial pulsation. Palpation; vocal fremitus; normal variations. Percussion; method; light percussion best; normal variations; outlining of apices by Kronig's method; best to percuss from below upward, comparing sides. Auscultation; best to auscultate from below upward, comparing sides; vocal resonance; normal variations; even pressure of stethoscope necessary; whispered voice transmission; normal variations; breath sounds; instructing patient how to breathe; absence of breath sounds; feeble breathing; rough breathing; harsh breathing; prolonged expiration bronchovesicular breathing; bronchial breathing; cavernous breathing; amphoric breathing; normal variations; auscultation of breath sounds at apices; bronchovesicular breathing at right apex; transmission of breath sounds from trachea; normal disparity between right and left apex; pulmonary râles; extrapulmonary sounds simulating râles; classification, crepitant, crackling, bubbling (so-called moist or subcrepitant râles), sibilant and sonorous râles; gurgling râles; consonating râles; cavity râles; pleural râles. Value of "expiration and cough" in eliciting râles. Check up one phase of the examination with the other. Value of the localization and locality of physical signs.

INSTRUCTION OF SUBSTANDARD OFFICERS.

A less advanced course of instruction was promulgated for officers of the substandard class, with the idea of saving for the Service every man capable of developing into a useful officer.

This simpler curriculum was as follows: [28]

(*a*) Clinical training will be given each day as follows, unless circumstances render a change advisable. Attendance is compulsory.

Monday: Chest clinic, one hour. Discussion of cases and of manner of their investigation and presentation.

Tuesday: Surgical clinic, one hour. Discussion as above.

Wednesday: Diseases of digestive system clinic. Discussion as above.

Thursday: Fractures and orthopedic clinic. Discussion as above.

Friday: Psychiatric, neurologic, ductless glands clinic. Discussion as above.

Saturday: Medical or surgical—Bone and joint clinic. Discussion as above.

(*b*) Instruction should be given to individuals or to classes small enough to permit of individual instruction by chiefs of service as follows, attendance being compulsory on the part of all substandard men.

Monday: By chiefs of medical service. On routine and thorough methods of physical examination and history writing.

Tuesday: By chief of surgical service. Similar instruction in relation to surgical cases.

Wednesday: By director of laboratory. On laboratory aids to the ward surgeon; what may be expected from the laboratory, how it may be obtained, what it may mean, preparation of patient.

Thursday: By director of X-ray laboratory. On X-ray aids, what may be expected, how obtained, what it may mean, preparation of patient.

Friday: By adjutant or registrar. Preparation and disposal of hospital records. Importance of them and of their completeness.

Saturday: Repetition of most needed instruction.

(*c*) Officers of known incapacity or doubtful capacity will, so far and so long as it is possible, be assigned to base hospitals or other units in excess of the quota of real necessity, for the purpose of the above instruction and will there be under constant instruction and will do a full day's work each day under the supervision of an officer of known capacity.

4. No definite period is set for this training of substandard men to remedy their defects and determine their competence. It should be continued so long as they apparently profit thereby. But an officer who at the end of six weeks of intensive instruction does not give promise of reasonable competence at an early date is not worth continuing in the service.

INSTRUCTION OF NURSES.

The Army Nurse Corps, made up almost entirely of members to whom the military aspect of nursing was quite unfamiliar, did not pass through training camps, but went at once to the bedsides of the sick and wounded.[29]

In forming the personnel of the various hospitals an endeavor was made to detail nurses who were especially skilled in operating-room technique, the administration of anesthetics, etc., and the respective commanding officers were informed of their special qualifications.

Their instruction partook of the characteristics of experience. This experience, enhanced in value by intimate guidance on the part of better trained nurses, or of medical officers, permitted selections to be made for newly organized hospitals in the United States, as well as for hospital units for service abroad.[30]

One use of nurses, new in the Military Establishment, was as anesthetists. This proved most advantageous, for medical officers were thereby released for other work.

Special courses in the administration of anesthetics[31] were given in the large general and base hospitals and at St. Mary's Hospital, Rochester, Minn.

Reference has been made to the branches of the Army School of Nursing which were established in the various military hospitals. The details of the instruction given in these schools may be found in that volume of this history which deals with Medical Department training.

INSTRUCTION OF ENLISTED PERSONNEL.

The wide scope of the duties performed by the enlisted personnel of fixed hospitals necessitated a specialization which, in a twofold manner, generally prevented a comprehensive course of instruction for that personnel as a whole. There was close confinement to restricted details as individuals or as groups; and organization—which included instruction—not only had to go hand in hand with successively greater demands made in the care of the sick, but for a while was a considerable degree behind. Many of the base hospitals had very small beginnings, and the personnel was gradually added as the physical growth of the hospital occurred. Frequently in the earliest days of organization patients were considerably disproportionate to personnel, and instruction necessarily was limited to vital requisites. In general the first essentials in training were rudiments in the care of the sick and in the preparation of food for both patients and personnel.

As the hospital grew and its departments increased in number, coincident with the growth of the personnel, it was found that many technically qualified men could be assigned directly to services,[32] wherein they functioned very satisfactorily throughout the existence of the hospital.

Instruction in hospitals was largely carried out in separate departments of the hospitals and in the main was based on practical performance of work under the guidance of those responsible for the integrity of given departments. In this way large numbers of men, both privates and noncommissioned officers, were trained in special duties and made available for the formation of additional units for service at other newly organized hospitals.

Discipline and duties of the soldier were subjects early imparted,[33] though in the beginning only disappointing results were obtained because of the impracticability of liberating but a small proportion of members of detachments from their exacting duties. Later on, however, with better organization, it was possible to form groups of the detachments at hospitals and by drilling and instructing separate groups on successive days, in the course of a week, each member of the detachment had received instruction.

TRAINING DEPARTMENTS IN HOSPITALS.

In the winter and spring, following the beginning of the functioning of the large hospitals, frequent complaints arose over men being returned to duty from hospitals who proved to be physically incapable of performing duty.[34] It was noted that patients who had been confined to hospitals for more than two weeks were rendered unfit for immediate resumption of their full duties as the result of such confinement and because of the medical or surgical conditions for which they had been treated. The soldiers then frequently broke down on return to duty, and their readmission to hospital for further treatment was necessitated.

The Surgeon General directed that hospitals establish training departments in the convalescent division to which convalescents would be transferred by the chiefs of the medical and surgical services of the hospitals.[34]

These training departments were intended to be auxiliary to development battalions. The men with whom they dealt were those who, for various reasons, had to be kept in hospitals and whose discharge to the development battalions or to duty could be hastened rather than retarded by the training.

While undergoing training these patients were referred, for all purposes of medical or surgical treatment, to the medical officers by whom they were transferred.

A medical officer was designated by the commanding officer of each hospital to have charge of the training. This officer admitted and classified the men according to the strength and condition of each—largely on the recommendation of the transferring officer—and supervised their instruction in work, exercise, and drill. He maintained discipline; kept suitable records of all members of the department; and finally determined what disposition the condition of the patients warranted; that is, their discharge to the development battalion or to their former commands.

Under the officer in charge of the training department there were subordinate medical officers in sufficient number to supervise the convalescent wards and the patients therein. The duties of these officers were to have immediate supervision and control of the patients in their charge; to treat all minor ailments, referring major illnesses to the proper service of the hospital; to assist in determining the physical capabilities of the patients, when to advance or retard them.

The classes varied from the lowest, wherein men could not exercise but could attend lectures, to the highest, in which it was found men did more work frequently than those on full duty status. It was found that men went either up or down. If they suffered a retrogression, they were examined by the physical disability board of the hospital with a view to their elimination from the service.

REHABILITATION.

The Surgeon General, at the request of the Secretary of War, in January, 1918, called a conference of a number of governmental and civilian organizations interested in the problem of reconstruction of disabled soldiers with the idea of arriving at the best means of administering this work in all its ramifications.[35] As a result of the work of the committee in the conference, a report was submitted to the Secretary of War.[36] This report outlined the functions of the Medical Department of the Army and the functions of the civilian agencies in carrying on the work of physical reconstruction and rehabilitation. The approved policy for the physical reconstruction of disabled soldiers contemplated that no member of the military establishment disabled in line of duty, even though not expected to return to duty, would be discharged from the service until after he had attained complete recovery or as complete recovery as could be expected considering the nature of the disability.

Physical reconstruction was defined as the most complete form of medical and surgical treatment carried to the point where maximum functional restoration, mental and physical, had been secured.

The completed form of physical reconstruction embraced the equipment of the general and base hospitals, which functioned in physical reconstruction, with curative workshops and educational buildings properly equipped to carry on curative work, physiotherapy buildings, including gymnasia properly equipped to utilize every physical means of cure.

The necessary personnel to administer the work was obtained by commissioning educational officers in the Sanitary Corps.[37] Administration officers for physiotherapy were obtained from qualified members of the Medical Corps.[38] Enlisted personnel were assigned to both the educational and the physiotherapeutic departments, and civilian women were employed and designated reconstruction aids, to function in two classes: Occupational therapy and physiotherapy.[39]

On July 31, 1918, the Surgeon General designated the following general hospitals to function in physical reconstruction:[40] Walter Reed General

Hospital, Takoma Park, D. C.; General Hospital No. 2, Fort McHenry, Md.; General Hospital No. 3, Colonia, N. J.; General Hospital No. 4, Fort Porter, N. Y.; General Hospital No. 6, Fort McPherson, Ga.; General Hospital No. 7, Baltimore, Md. (for the blind); General Hospital No. 8, Otisville, N. Y.; General Hospital No. 9, Lakewood, N. J.; General Hospital No. 11, Cape May, N. J; General Hospital No. 16, New Haven, Conn.; General Hospital No. 17, Markleton, Pa.; Letterman General Hospital, San Francisco, Calif.; United States Army Hospital, Fort Des Moines, Iowa; Plattsburg Barracks Hospital, Plattsburg Barracks, N. Y.; General Hospital, Fort Bayard, N. Mex.

Special provision was made for the training and education of the blind at General Hospital No. 7, Baltimore, during the year beginning July, 1, 1917.[41] This hospital was completed, a corps of teachers, including civilian employees of the Army, augmented by volunteers from civil life, was obtained, and active work was begun on May 30, 1918.

Special arrangements were made for the care of soldiers disabled by deafness and by speech defects at General Hospital No. 11, Cape May, N. J.[42] Deaf soldiers were taught lip reading and incidentally were trained in suitable occupations. The soldiers disabled by speech defects were trained in speech articulation and were vocationally trained.

On December 19, 1918, the Chief of Staff approved the Surgeon General's recommendation that the number of centers to function in physical reconstruction to meet the need of rehabilitation of the very large number of disabled men returned from overseas, be amplified.[43] The amplification of the centers of physical reconstruction included the alteration of existing buildings, available buildings in the designated centers, the purchase of new or the transfer of the necessary equipment already owned by the Government for workshops, school buildings, farm, motor mechanics, physical education, and the like. To meet the added work indicated the following centers were designated to function in physical reconstruction:[44] General Hospital No. 12, Biltmore, N. C.; General Hospital No. 31, Carlisle, Pa.; General Hospital No. 35, Detroit, Mich.; General Hospital No. 36, Detroit, Mich.; General Hospital No. 38, East View, N. Y.; General Hospital No. 41, Fox Hills, Staten Island, N. Y.; General Hospital No. 42, Spartanburg, S. C.; base hospitals at Camps Gordon, Ga.; Jackson, S. C.; Lee, Va.; Meade, Md.; Sherman, Ohio; Taylor, Ky.; Funston (Fort Riley), Kans.; Custer, Mich.; Grant, Ill.; Travis, Tex.; Pike, Ark.; Dodge, Iowa; Lewis, Wash.; Dix, N. J.; Devens, Mass.; Upton, Long Island; and Kearny, Calif.; and on May 1, 1919, General Hospital No. 43, Hampton, Va.

REFERENCES.

(1) Manual for the Medical Department, 1916, par. 760.
(2) Ibid., par. 602.
(3) Letter from the Surgeon General to all commanding officers of hospitals. December 18, 1917. Subject: Enlisted men. On file, Record Room, S. G. O., 320.22-1. *Also:* Cir. Letter No. 956, Surgeon General's Office, February 2, 1918. *Also:* Cir. Letter No. (A-169), Surgeon General's Office, March 7, 1918.
(4) Cir. Letter No. 201, Surgeon General's Office, October 15, 1917.
(5) Annual Report of the Surgeon General, U. S. Army, 1918, 406.
(6) Ibid., 408.

(7) From a statement on the subject in History of Base Hospital, Camp Grant, Ill., on file, Historical Division, S. G. O. *Also:* Circular letter from the Surgeon General to commanding officers, base and general hospitals, December 14, 1917. Subject: Practical training substandard officers. Copy on file, Historical Division, S. G. O.

(8) Circular letter from the Surgeon General, October 15, 1917. Subject: Personnel. Copy on file, Historical Division, S. G. O.

(9) Circular memorandum from the Surgeon General, November 15, 1917. Subject: Instruction. Copy on file, Historical Division, S. G. O.

(10) Circular letter from the Surgeon General to commanding officers of hospitals, February 19, 1918. Subject: Administration. Copy on file, Historical Division, S. G. O.

(11) Manual for the Medical Department, 1916, par. 315.

(12) Annual Report of the Surgeon General, U. S. Army, 1918, 312.

(13) Circular letter from the Surgeon General to commanding officers of hospitals, August 9, 1918. Subject: Army School of Nursing. Copy on file, Historical Division, S. G. O.

(14) Bull. No. 32, W. D., May 24, 1917; and Bull. No. 43, W. D., July 22, 1918.

(15) Circular letter from the Surgeon General to commanding officers of hospitals. (Undated.) Subject: Enlisted personnel. Copy on file, Historical Division, S. G. O.

(16) Circular memorandum from the Surgeon General to commanding officers of hospitals, February 23, 1918. Subject: Enlisted personnel. Copy on file, Historical Division, S. G. O.

(17) Circular letter from the Surgeon General to commanding officers of hospitals, March 1, 1918. Subject: Enlisted personnel. *Also:* Circular letter from the Surgeon General to commanding officers of hospitals, March 27, 1918. Subject: Enlisted personnel. Copies on file, Historical Division, S. G. O.

(18) Circular letter from the Surgeon General to commanding officers of hospitals, March 1, 1918. Subject: Enlisted personnel. Copy on file, Historical Division, S. G. O.

(19) Circular letter from the Surgeon General to commanding officers of hospitals. (Undated.) Subject: Women laboratory technicians. Copy on file, Historical Division, S. G. O.

(20) Circular letter from the Surgeon General to commanding officers of hospitals, December 20, 1918. Subject: Status of reconstruction aides. Copy on file, Historical Division, S. G. O.

(21) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1127.

(22) Manual for the Medical Department, 1916, par. 290.

(23) Circular letter from the Surgeon General to commanding officers of hospitals, November 11, 1917. Subject: Specialists. Copy on file, Historical Division, S. G. O.

(24) Circular memorandum from the Surgeon General to commanding officers of hospitals. (Undated.) Subject: Recognition of sections representing specialists. Copy on file, Historical Division, S. G. O.

(25) Circular letter from the Surgeon General to commanding officers of hospitals, October 15, 1917. Subject: Personnel. Copy on file, Historical Division, S. G. O.

(26) Circular letter from the Surgeon General to commanding officers of hospitals, November 1, 1917. Subject: Professional training of medical officers. Copy on file, Historical Division, S. G. O.

(27) Circular letter from the Surgeon General to commanding officers of hospitals, November 15, 1917. Subject: Detail of especially trained medical officers as assistants. Copy on file, Historical Division, S. G. O.

(28) Circular letter from the Surgeon General to commanding officers of hospitals, December 14, 1917. Subject: Practical training of substandard officers. Copy on file, Historical Division, S. G. O.

(29) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1122.

(30) Ibid., 1123.

(31) Circular letter from the Surgeon General to commanding officers of hospitals, April 15, 1918. Subject: Comments of inspectors. Copy on file, Historical Division, S. G. O.

(32) G. O. No. 46, W. D., May 9, 1918.

(33) From statements on the subject in Histories of Base Hospitals. On file, Historical Division, S. G. O.

(34) Letter from the Surgeon General to commanding officers of all base hospitals, July 10, 1918. Subject: Training departments in hospitals. On file, Mimeograph Room, S. G. O., B–431.

(35) Memorandum from the Secretary of War to the Surgeon General, January 5, 1918. Conference on physical reconstruction. On file, Record Room, S. G. O., 356 (General).

(36) Letter from the Surgeon General to the Secretary of War, January 29, 1918. Subject: Report of conference. On file, Record Room, S. G. O., 356 (General).

(37) Regulations for the operation of curative workshops in military hospitals, March 14, 1918. On file, Record Room, S. G. O., 356 (General).

(38) Letter from the Division of Physical Reconstruction to the Surgeon General, May 28, 1918. Subject: Assignment of medical officers for physical reconstruction. On file, Record Room, S. G. O., 210.3 (Assignments).

(39) Circular of Information concerning the women's auxiliary medical aides, December 31, 1917. On file, Record Room, S. G. O., 231 (Reconstruction Aides).

(40) Release from Committee on Public Information to newspapers, July 31, 1918. Subject: Announcement by the Surgeon General of completion of plans for physical reconstruction of disabled soldiers in general military hospitals. On file, Record Room, S. G. O., 356 (General).

(41) Circular letter, Office of the Surgeon General, June 3, 1918. Subject: Physical reconstruction of invalided and disabled soldiers. On file, Record Room, S. G. O., 356 (General).

(42) Letter from The Adjutant General to the Surgeon General, December 19, 1918. Subject: Modified program for physical reconstruction of disabled soldiers. On file, Record Room, S. G. O., 356 (General).

(43) Memorandum from the Surgeon General to the General Staff, attention of Operating Division, December 10, 1918. Subject: Modified program for physical reconstruction of disabled soldiers. On file, Record Room, S. G. O., 356 (General).

(44) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1176.

CHAPTER VIII.

SUPPLIES AND UTILITIES.

SUPPLIES FOR HOSPITALS.

In 1917 the Quartermaster Corps was charged with the means of providing transportation of every character, except motor ambulances for the Medical Department, either under contract or in kind, in the movement of troops or material.[a] It was also charged with the duty of providing clothing, camp and garrison equipage, barracks, storehouses and other buildings; supplies, subsistence for enlisted men and others entitled thereto; and with the giving of instructions for procuring, distributing, issuing, selling, and accounting for all quartermaster and subsistence supplies.[1] The Medical Department was charged with furnishing all medical and hospital supplies.[2]

For the purpose of the system of procurement of quartermaster supplies, they were classified under the designations A, A–1, B, C, and D, respectively, which collectively included supplies of every kind furnished by the Quartermaster Corps.[3] The supplies included under the several classifications named are as follows:

Class A–1 supplies: Subsistence stores (consisting of articles composing the ration, those for other authorized issues, and those furnished for sale to officers and enlisted men).[4]

The ration was the allowance for the subsistence of one person for one day.[5]

Class A supplies: Articles connected with the use and equipment of troops.

Class B supplies: All supplies required for repairs to public buildings, including furniture and officers' quarters and messes, window screens, screen doors, refrigerators, electric-bell fixtures, heating stoves, ranges, cooking stoves, steam cooking systems, ovens and equipment pertaining to bakeries; and all repairs to the following within the building, viz, plumbing, lighting systems and fixtures, and steam, hot-water, or hot-air heating systems.

Repairs to and maintenance of lighting and heating systems exterior to buildings, including central plants pertaining thereto, ice and refrigerating plants.

Repairs to and maintenance of sewer systems, including purification plants, crematories, and water systems, including reservoirs and pumping plants.

Repairs to roads and walks; drainage and improvement of grounds.

Class C supplies: Articles of clothing authorized by the Secretary of War to be issued to enlisted men and charged against the established clothing allowance, the authorized extra or special issuance of such articles not charged, and for authorized sales.

Class D supplies: All other supplies.

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[a] For changes which were effected in the Quartermaster Corps during the war the reader is referred to Volume I (pp. 115–116) of this history.

SUBSISTENCE.

The Quartermaster Corps maintained in storage the articles of the ration, together with exceptional articles of food for sale. The ration of the enlisted patient was commuted;[6] that of the enlisted personnel and others entitled thereto, on duty at the hospitals, was drawn in whole or in part, the difference between the value of the subsistence drawn and the value of the subsistence credited, if any, was paid in cash to the officer in charge of the hospital, some time after the end of each month.[7] The commutation of rations was money paid in substitution of the ration.

The subsistence stores drawn in kind from the local quartermaster usually consisted of such articles as fresh beef, flour, potatoes, onions, coffee, sugar, etc.[8]

The list of special articles varied in its component elements and was principally an augmented supply of groceries.

In camps at which hospitals were located articles of subsistence were stored in the camp storehouses maintained by the quartermaster of the camp. In hospitals located at places where there were no posts or camps, facilities for handling the articles of the ration were provided.

Regulations for the government of United States Army general hospitals provided, in the administrative division, personnel for the operation of the supply department.[9] The regulations also governed, in so far as they were adaptable, the interior administration of base hospitals.

Operations which pertained to the purchase, storage, preparation, and distribution of food to those within the hospital entitled thereto were made the function of the mess officer—an officer of the Medical Department.

It was the duty of the mess officer to establish and conduct such messes and furnish such diets as the commanding officer of the hospital desired to direct. He submitted, for the approval of the commanding officer, all permanent orders or directions for the care and conduct of his department. He was accountable for and expended the hospital fund, under the supervision of the commanding officer. He purchased from the Quartermaster Corps whatever kind of food supplies it had on hand. When it so happened that the quartermaster was unable to fill the orders submitted by the mess officer, the desired articles were purchased from local markets.

The value of the ration to which the enlisted personnel on duty at hospitals was entitled varied from time to time and was established monthly by the quartermaster.[8] The commuted value of the ration for the enlisted sick in hospitals was, until December 31, 1917, at the rate of 40 cents, except at the general hospital, Fort Bayard, where it was commuted at 50 cents.[6]

On December 31, 1917, the ration for sick in hospitals was commuted at the rate of 60 cents, except at stations, posts, or camps where the Quartermaster Corps carried no stock or sales articles, the rate being 75 cents a ration.[10]

Late in the year 1918, because of the constant increase in cost of food, the commuted value of the ration for sick in hospitals was modified on the basis of two considerations. It was recognized that feeding the tuberculous was ordinarily more costly than feeding the average patient. Therefore, it was so provided that there would be ample funds for the tuberculous by adding 50 per cent to the value of the ration, regardless of bed capacity. In all other hospitals the added amount varied with the bed capacity. Hospitals of 100 beds or less received the actual cost of the ration plus 50 per cent; those having a bed capacity of more than 100 but less than 500 received the actual cost of the ration plus 40 per cent; those with a bed capacity between 500 and 1,000, the actual cost of the ration plus 25 per cent.[11]

One year later the ration of the sick in tuberculosis hospitals was commuted at the actual cost of the ration plus 100 per cent.[12]

OTHER QUARTERMASTER SUPPLIES.

At all hospitals storage facilities were provided wherein an adequate stock of clothing and equipage was stored and from which it was issued.

General hospital regulations contemplated having a medical officer act as quartermaster of the hospital and to have charge of and be accountable for Quartermaster, Medical, Ordnance, and Signal Corps property and funds; to have charge of the construction and repair of buildings and property and the necessary shops; charge of transportation; police and care of grounds, disinfecting and sterilizing plants, heating, lighting, and ice plants; and charge the clothing and baggage storerooms of the patients.[9]

To assist him in this work, the detail of an adequate number of specially trained noncommissioned officers and privates, Medical Department and Quartermaster Corps, as well as civilian employees of the Medical Department were provided for. The duties of the several grades of the Quartermaster Corps were prescribed in general orders.[13]

In practice during the war, an officer of the Quartermaster Corps was assigned to duty at all general and camp base hospitals.[14]

CLOTHING AND EQUIPAGE.

Tables showing the price of clothing and equipage for the Army, the allowance for each year and an enlisted man's clothing money allowance for each year, month, and day, also the allowance of equipage to officers and enlisted men, were published in orders by the War Department.[15]

On July 11, 1917, the President of the United States directed that during the period of the war a soldier's allowance for clothing would be the quantity necessary and adequate for the service upon which he was engaged.[16]

Those in hospitals entitled to draw clothing from the quartermaster were of two classes—nurses and enlisted men on duty, and enlisted patients. The enlisted men of each class automatically became a member of the detachment, Medical Department, or detachment of patients, respectively, both of which were under the command of officers attached to the hospital staff.

When clothing was required, issue was made by the quartermaster, either to the individual enlisted man, or in bulk to the detachment commander, or officer representing him, for use of the enlisted men of his detachment.

MEDICAL SUPPLIES.

Hospital supplies during the war were secured by the Supply Division of the Surgeon General's Office[a] and the medical supply depots under its direction.[17] It was early found that with the establishment of the various camps would come the need for the development at each of a local depot, equipped to meet all the needs of the camp, regimental organizations, sanitary trains, and base hospitals. In many instances supplies arrived at camps before there were buildings to receive them, and it was necessary to store them wherever space could be secured in existing buildings, farmhouses, in the open, or under canvas.

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[a] On Nov. 15, 1918, Medical Department supplies were turned over to the Purchase, Storage, and Traffic Division, General Staff.

The Sanitary Corps was authorized, June 30, 1917, to provide technical and nonmedical personnel for the various activities of the Medical Department,[18] and it was for this corps that officers for duty in medical supply offices were obtained.

Medical supplies included medicines, antiseptics, and disinfectants; stationary, miscellaneous supplies (including instruments, appliances, special equipment for wards, operating rooms, messes, etc.), laboratory, X-ray, and dental supplies.[19]

Supplies were sent from one or more medical supply depots for the institution of the hospitals. Although the supply of drugs and other remedies for dispensaries and ward equipment was not equal to the demand for base hospital uses in the early months of the war, eventually these were reasonably ample,[20] with the exception of a few substances from abroad. These latter were superseded by domestic products.[20]

AUXILIARY SUPPLIES.

By act of Congress approved April 24, 1912,[21] organized voluntary aid was provided for through the instrumentality of the American National Red Cross.

Each large hospital had, as a part of its personnel, one or more representatives of the Red Cross, who, besides acting as a medium of communication between the people and their relatives, at the hospital, distributed Red Cross property intended for the comfort of the patients or personnel. These Red Cross articles were in the nature of a refinement and consisted of such things as sweaters, mufflers, woolen helmets, socks, and comfort kits.

Frequently, in emergency—or upon the request or suggestion of an officer in charge—the Red Cross procured for hospitals, articles of medical supplies not otherwise obtainable at the time. These articles were taken up and accounted for on returns of medical property.[22]

UTILITIES.

As has already been stated, the Quartermaster Corps was charged not only with the erection of hospital buildings but with their upkeep. The upkeep included general repairs to the buildings and to the technical, movable property within them; the physical care of exteriors; and the operation of the facilities which permitted the existence of the institution as a whole, viz, water supply, sewerage, lighting, heating, etc.

Primarily, the control of upkeep constituted a function of a local quartermaster, but with the institution of means directed toward a more scientific civic management on the part of the War Department, in various directions, the Utilities Department became an entity.[23]

A utilities officer was assigned as a member of the staff of the camp commander, his duties being defined as those formerly performed by a camp or post quartermaster, excluding the handling of supplies, finance, and the conservation and reclamation service.[23] The operation of the utilities connected with hospitals—with the exception of central heating plants, when such existed—remained directly under the supervision of quartermasters of hospitals, but their control was assumed by the camp utilities officers, who furnished the required technical enlisted men.

LIGHTING.

The electrical energy for hospitals was obtained from public service electric companies in the form of alternating current.[24] Where hospitals were located as a part of a camp, the current was obtained through the main camp source of supply. In hospitals which were located apart from the concentration of troops, the electrical energy was obtained directly from public service companies.

In exterior lighting, series systems were used with 6.6 ampere, 100-candlepower lamps and radial-ray reflectors on gooseneck bracelets attached to poles. The lamps were from 250 to 350 feet apart, according to requirements.[24] For interior lighting a standard arrangement of 40-watt lamps was in general use. Those buildings requiring especially good lighting were furnished larger-sized lamps. The general wiring method for the frame hospital buildings was concealed knot and tube; and for buildings with fireproof walls, concealed rigid conduits. Ceiling receptacles and sockets were of brass shell with glass reflectors or opalescent globes.[24]

A nurses' calling system, consisting of a set of calling stations with reset provisions and pilots at beds, arranged to signal the nurse's office and designed to operate at 115 volts, was installed in some of the later constructed wards. The lamps were of 10-watt capacity, color dipped. In the two-story buildings a set of signals from the first floor was installed in the second-floor office, with a switch for disconnections when it was not required; and similarly a system to take care of the first-floor calls was installed in the first-floor office.[25]

HEATING AND HOT WATER SYSTEMS.

Two general systems of heating hospitals were primarily adopted, viz, steam, generated at a centrally located heating plant; and stoves, placed directly in buildings.

Steam heating of the National Army hospitals was provided for in the original plans,[26] but because of the primary intention to discontinue the use of hospitals at National Guard camps at a comparatively early time stoves only were provided them.[26] The disapproval of the Secretary of War of the installation of central heating plants of steam in the base hospitals of National Guard camps [27] was based upon the fact that they were located in the southern portion of the United States where it was expected a mild winter temperature would prevail. For heating the wards and other buildings, stoves, room furnaces, etc., were utilized. Later, the Secretary of War authorized the installation of central heating plants for portions of some of the National Guard camp hospitals, viz, operating pavilion, X-ray laboratory, administrative building, etc.[28]

The large central heating plants for hospitals, when installed, consisted of a battery of horizontal, nonreturn, tubular boilers. The boiler plants were

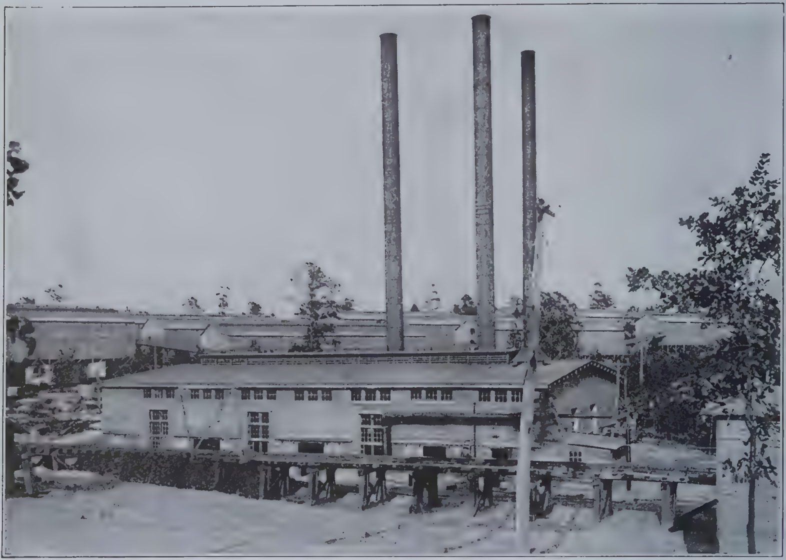

FIG. 64.—Central heating plant National Army base hospital.

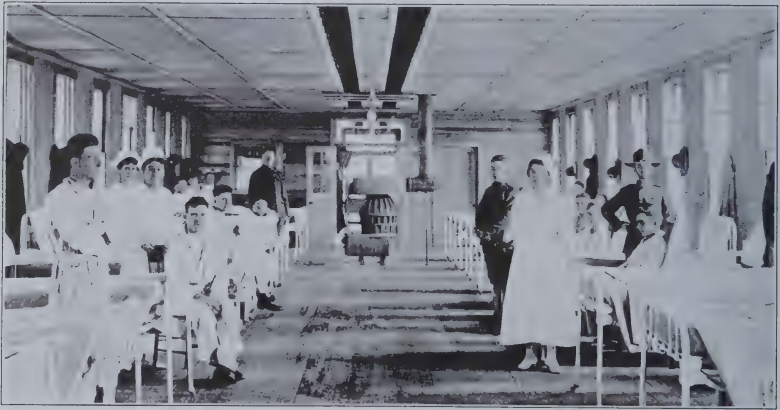

FIG. 65.—Method of heating National Guard hospital.

standardized as much as possible, those for steam radiation being designed to run at a low pressure, and usually one for the purpose of steam sterilization, cooking, etc., at a higher pressure.[29] The distributing system of piping usually consisted of high or medium pressure mains, condensation returns from the heating system, and steam line drip piping. The steam distributing lines were overhead, suspended from poles, and were insulated by means of built-up covering, consisting of 1-inch asbestos air-cell covering and 1-inch hair felt or other suitable material. The hair felt was covered by 2-ply roofing paper, the whole bound together with wire and painted with asphaltum paint.

Experience demonstrated the impracticability of the nonreturn type of distributing lines in the central heating plants, and these were generally changed to the return type.[30]

The design of hot-water supply systems for hospitals presented a special problem, and two methods of furnishing hot water to the various parts of the hospitals were used. In the case of comparatively small buildings, widely separated, such as those at general hospitals for tuberculous patients, individual hot-water tanks with steam coils were provided for each building. If, on the other hand, the buildings were compactly grouped, hot water was usually furnished from the central heating plant—in the event that there was one—from large storage tanks with steam coils. In the latter case water was circulated to the various buildings by centrifugal pumps.[30]

WATER SUPPLY.

As a rule this essential provision had already been arranged—and satisfactorily—in hospitals partially or wholly constructed before 1917. Even subsequently enlarged and converted buildings had, with rare exception, an abundant supply of pure water. The water supply of the large camp base hospitals was a part of the main camp supply,[31] but almost as often the source of potable and other water was independent wells, town or village waterworks, lake areas—all these were drawn upon for the supply of water to hospitals. Its distribution and prophylactic treatment by some form of chlorination, filtration, or sedimentation were, as a rule, satisfactorily accomplished. Although it was necessary in some instances to husband the supply, and occasionally to ration it, few proper criticisms are to be found in the histories of individual hospitals. In most cases the supply was stored in reservoirs or in tanks on hillsides, or in some way raised above the roofs of the hospital group, so as to give the needed hydraulic force for distribution.

SEWAGE DISPOSAL.

In new construction, and especially in the base hospitals of camps, sewage disposal was usually a part of the camp problems [32] and, in consequence, it was variously treated. For the details in connection with the treatment the reader is referred to Volume VI of this history. It is of interest herein merely to note that, as an economic measure, no sewerage systems were primarily provided the base hospitals of the National Guard camps. Latrines were used at these places for the disposal of excretions until during the year 1918, when sewerage systems were authorized and installed.[33]

GARBAGE DISPOSAL.

Generally speaking, kitchen refuse and other forms of garbage were carefully collected in screened containers, awaiting disposal. Galvanized-iron cans were early employed for the reception of the more readily decomposed material, food, etc., and these cans were duly sterilized each time they were filled and emptied.[34] Sometimes these procedures included sorting stations where salable matter was separated and sold to contractors, the remainder being set aside for removal to dumps or incinerators. Occasionally the methods formed part of the general camp disposition of garbage; more frequently, however, a plan was adopted for the hospital group alone.

The following are examples of the greatly varied garbage-disposal methods employed at the base hospitals of the camps:[35] At the base hospital, Camp Custer, a garbage storage house with cement floor and screened windows, 8 by 20 feet, was constructed in the rear of the kitchen. To this house garbage was brought from each ward and mess, weighed by an inspector, sorted, and the weights and character of the garbage noted. A report of this was then sent to the desk of the mess officer, the dietitian, and the commanding officer. Undue waste for any ward or mess was noted and comment made locally or at officers' call. By thus fixing individual responsibility the daily waste of edible food was reduced to as low as 0.17 ounce per day. The waste in the detachment mess was at times as low as 0.06 per ration. The garbage, except that from the contagious-disease wards, was hauled away in cans and turned over to a contractor. Sputum cups and articles containing discharges of similar nature were collected in a pail lined with newspapers and burned in the furnace, as were infected dressings. Garbage from the isolation wards was separated and burned. At the base hospital, Camp Cody, the waste from the kitchen was disposed of by the reclamation service.[36] Trash and other waste were placed in galvanized-iron containers for storage until incinerated at the dump. At the base hospital, Camp Beauregard, the kitchen refuse was disposed of through a contractor, who hauled it away each day to a hogpen some distance from the hospital. If the garbage accumulated at any time it was burned.[37]

FIRE PROTECTION.

As many of the hospitals were constructed of highly inflammable material, it was obvious that their use would result in an excessive conflagration hazard. In designs provisions were made for the inclusion of fire breaks and the establishment of standards for the individual separation of the buildings.[38] All walls and partitions were provided with fire stops at foundations and eave lines and blind attics, with draft stops at 50-foot intervals.[38] Where it was found necessary to install stoves and room heaters, plans were made for the construction of proper hearths, consisting of fire brick or sand, and for room heaters, of sheet metal or asbestos.[38]

Fire companies were organized, made up of trained fire-fighting personnel, as far as practicable, and furnished with fire-fighting apparatus of the small automobile type.[38]

First-aid fire-extinguishing apparatus was also distributed throughout the buildings, including fire pails, chemical extinguishers, water buckets, and hand-pump tanks.[38]

FIG. 66.—Base hospital fire station.

Provision was made for fire-alarm service, consisting of an automatic fire-alarm system.[38]

There was a remarkable freedom from extensive fire losses in any of the larger hospitals.[38]

REFRIGERATION.

The base hospitals of National Army camps, except that at Camp Funston, were supplied with small refrigerating plants, each having a capacity of 1 ton of refrigeration per day. Many of the general hospitals were likewise supplied with refrigerating plants, some of which were equipped with ice-making apparatus sufficient to meet the needs of the hospital.[39]

Where refrigerating plants were not provided, as at the National Guard hospitals, ice boxes were used, the ice being obtained from the camp refrigerating plant or by purchase from local dealers.

LAUNDRY.

It was originally planned to have laundry units a part of all semipermanent hospitals. Buildings were erected, and in some instances partial laundry equipment was provided.[40] It was soon determined, however, that it would be more practical to have the hospital laundry done by the camp steam laundries or by local contract. In a few instances the base hospitals equipped their own laundries and managed the operation of them.[41]

HOSPITAL GROUNDS.

The site chosen for the hospital hinged upon primary considerations, which, in the instance of camps, and aside from military reasons, were high ground, adequate detachment from the concentrated troops when present, and a well-drained area with good sun exposure. Frequently virgin sites were selected which necessitated much clearing.

The construction activities—building, sewerage system installation, etc.—left much to be desired, from an attractiveness viewpoint; and with the early concentration of efforts on organization, and a correlative, greater expenditure of time on the care of patients, little or no time could be devoted to the eradication of the glaring ugliness of most of the hospital exteriors. With the advent of the spring and summer of 1918, however, there was opportunty to grade, where necessary, or fill in, and plant grass seed, flower beds, and trees.[42] Truck gardens were made on available neighboring space, in many instances, which proved of twofold value—a considerable source of revenue for the hospital fund, and, with the general upkeep of the hospital exterior, a valuable recreation for convalescents.[43]

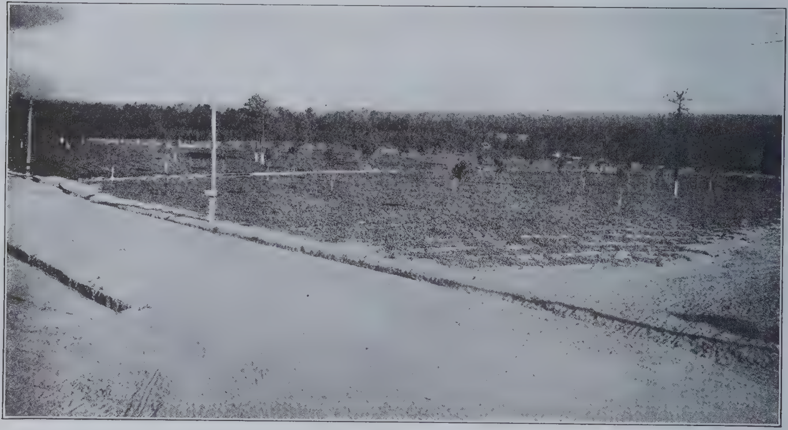

FIG. 67.—Portion of a base hospital farm.

ROADS AND WALKS.

The main road leading from camp to hospital was improved at a comparatively early date, and usually consisted of a concrete or macadam structure.[44] Within the hospital area the improvement in roads was left to the resources of the officer in command. Where cinders were available, as from the central heating plant, these were used; [45] in some instances crushed stone was used; [46] and frequently they remained of dirt.

Most wards were joined together by covered corridors provided for in the original construction.[47] There were many buildings in the hospital group, however, which were not connected by means of these covered corridors.[48] In the early weeks of their occupancy, nurses were obliged in rainy weather to walk to and from their quarters through mud and water, and likewise the officers encountered this trouble in visiting detached wards, such as those of the isolation group. All members of the personnel, as well as visitors, tracked into the various buildings more or less dirt from these muddy walks, all tending to make it difficult or impossible to keep corridors, wards, etc., reasonably clean.

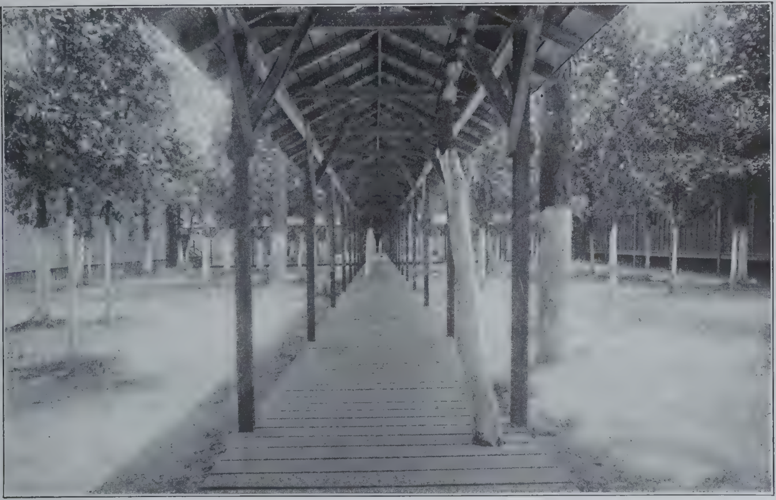

FIG. 68.—Covered, or "umbrella" walk.

These difficulties were eventually overcome by the construction of footpaths of various materials, or sidewalks of boards.[49]

REFERENCES.

(1) A. R. 1,000, 1913.
(2) A. R. 1386, 1913.
(3) Manual for the Quartermaster Corps, 1916, Vol. II, 2223.
(4) A. R. 1195, 1913.
(5) A. R. 1202, 1913.
(6) A. R. 1212, 1913.
(7) A. R. 1220, 1913.
(8) A. R. 1221, 1913.
(9) Regulations for the Government of United States Army General Hospitals, War Department, Surgeon General's Office, 1914.
(10) A. R. 1212, 1913 (C. A. R. No. 66, W. D., 1917).
(11) A. R. 1212, 1913 (C. A. R. No. 82, W. D., 1918).
(12) A. R. 1212, 1913 (C. A. R. No. 99, W. D., 1919).
(13) G. O., No. 40, W. D., Oct. 25, 1912.
(14) Letter from the Surgeon General of the Army to the Quartermaster General of the Army, September 6, 1917. Subject: Quartermasters for base hospitals. On file, Record Room, S. G. O., 211 (Quartermasters, Base Hospitals) J.
(15) Special Regulations No. 40, W. D., 1917.
(16) G. O., No. 89, W. D., July 11, 1917.
(17) Annual Report of the Surgeon General, U. S. Army, 1918, 320.

(18) G. O., No. 80, W. D., June 30, 1917.
(19) Manual for the Medical Department, 1916, Art. XVII.
(20) Supply Letters, Nos. 1 to 23, W. D., S. G. O., December 5, 1917.
(21) 37 Stats., 90.
(22) Supply Letter No. 28, W. D., S. G. O., October 9, 1918.
(23) G. O., No. 72, W. D., August 6, 1918.
(24) Report of the Chief of Construction Division, W. D., 1919, 12.
(25) Manual of the Construction Division of the Army, Section C, Engineering Division, 1918, 91.
(26) Annual Report of the Surgeon General, U. S. Army, 1918, 317.
(27) Second indorsement from The Adjutant General to the officer in charge Cantonment Construction Division, July 8, 1918. Subject: Disapproval of heating plants for National Guard camp base hospitals. On file Mail and Record Division, A. G. O., 674.1 (Misc. Sec.).
(28) From statements on the subject of heating in the separate Histories of Base Hospitals at National Guard Camps. On file, Historical Division, S. G. O.
(29) Manual of the Construction Division of the Army, Section C, Engineering Division, 1918, 106. *Also:* From statements on the subject of heating in the separate Histories of Base Hospitals at National Army Camps. On file, Historical Division, S. G. O.
(30) Report of the Chief of Construction Division, W. D., 1919, 21.
(31) Ibid., 15.
(32) Ibid., 30 to 35.
(33) Ibid., 14.
(34) Ibid., 36.
(35) History of Base Hospital, Camp Custer, Mich. On file, Historical Division, S. G. O.
(36) History of Base Hospital, Camp Cody, N. Mex. On file, Historical Division, S. G. O.
(37) History of Base Hospital, Camp Beauregard, La. On file, Historical Division, S. G. O.
(38) Report of the Chief of Construction Division, W. D., 1919, 16 to 19.
(39) Ibid., 24.
(40) Annual Report of the Surgeon General, U. S. Army, 1918, 318.
(41) From statements on the subject in Histories of Base Hospitals at Camp Cody, N. Mex., and Camp Grant, Ill. On file, Historical Division, S. G. O.
(42) From statements on the subject in the separate Histories of Base Hospitals. On file, Historical Division, S. G. O.
(43) From statements on the subject in the separate Histories of Base Hospitals. On file, Historical Division, S. G. O.
(44) Report of the Chief of Construction Division, W. D., 1919, 24.
(45) From statements on the subject in the separate Histories of Base Hospitals. On file, Historical Division, S. G. O.
(46) From statements on the subject in the separate Histories of Base Hospitals. On file, Historical Division, S. G. O.
(47) Letter from the Surgeon General to the Quartermaster General. May 26, 1917. Subject: Estimates for base hospitals for cantonments. On file, Record Room, S. G. O., 176796 R.
(48) Letter from the Surgeon General to the Quartermaster General, December 26, 1917. Subject: Hospital increase at National Army base hospitals. On file, Record Room, S. G. O., 632–11 (General).
(49) From statements on the subject in the separate Histories of Base Hospitals. On file, Historical Division, S. G. O.

CHAPTER IX.

COORDINATION OF MEASURES FOR THE IMPROVEMENT OF THE ADMINISTRATION OF HOSPITALS.

SANITARY INSPECTORS.

A group of specially trained medical officers of long service was constantly engaged in making routine and special inspections of large camps, cantonments, hospitals, and other stations.[1] Their duties primarily pertained to sanitary and administrative matters within camps and cantonments, though they included the inspection of hospitals.

The scope of the inspections which these sanitary inspectors made differed materially from those made by the Inspector General's Department;[1] less stress was laid on details of a purely military nature and more emphasis was placed on matters largely technical, such as nursing and the professional care of the sick, the competency of medical officers, the handling of infectious diseases, the quantity and quality of medical supplies, hospital construction, laboratories, and special diets.

After each inspection a report was made by the sanitary inspectors; and pertinent abstracts were furnished the hospital division of the Surgeon General's Office, for the information of the administrative officers on duty therein. Personal conferences were had with officers on duty in the Surgeon General's Office, when necessary in the correction of deficiencies which had been made of note at one of the inspections.

The following improved form was used in making inspections of hospitals:

REPORT OF SANITARY INSPECTION OF .... HOSPITAL ....*

At .... on ....1919.

By Colonel .... M. C.

1. Situation:
    - (*a*) Condition of roads.
    - (*b*) Improvement of grounds.
2. Construction:
    - (*a*) Progress on authorized projects.
    - (*b*) Additional required or recommended.
3. Organization and administration:
    - (*a*) Name and efficiency of C. O.
    - (*b*) Adjutant's office, including personnel adjutant.
    - (*c*) Hospital regulations, adequacy of same.
    - (*d*) Officer of the day. Duties.
    - (*e*) What action to eliminate unfit officers?
    - (*f*) What course of instruction given to officers? How many hours?
    - (*g*) Adequacy of officers' quarters.
    - (*h*) Amount and sufficiency of transportation, including ambulances. Is ambulance service satisfactory?

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*[Asterisks signify answers to be prepared prior to arrival of inspector].

4. Nurses:
    - (*a*) Number, sufficiency, efficiency.
    - (*b*) Name and efficiency of chief nurse.
    - (*c*) Adequacy and suitability of quarters.
    - (*d*) Administration of nurses' mess.
5. Detachment enlisted men, M. D.:
    - (*a*) C. O. and organization of office.
    - (*b*) Condition of records.
    - (*c*) Number and efficiency of N. C. O.
    - (*d*) Strength, sufficiency, and efficiency of detachment.
    - (*e*) Sufficiency of clothing and equipment. Are there white suits for all entitled to wear them?
    - (*f*) Instruction and drills. Character and efficiency of guard
    - (*g*) Operation of venereal prophylactic station.
    - (*h*) How often are physical inspections held?
6. Barracks and squad rooms:
    - (*a*) Adequacy.
    - (*b*) Ventilation and heating.
    - (*c*) Equipment.
    - (*d*) Operation of mess and kitchen.
    - (*e*) Character and condition of guardhouse.
7. Registrar's office:
    - (*a*) Organization and administration.
    - (*b*) Status of records and returns.
    - (*c*) Average number of days in hospital per patient during past month.
    - (*d*) Mean daily number of cases in hospital each month since hospital opened (not to cover more than 1 year).
8. Dispensary service:
    - (*a*) Compliance with pars. 240–244, M. M. D.
    - (*b*) Are common drinking cups used to administer medicine?

*9. Dental service.
*10. Medical service.
*11. Surgical service.
*12. Eye, ear, nose, and throat department.
*13. Laboratory, including ward laboratories.
*14. Genitourinary service.
*15. Psychopathic service.
16. Communicable diseases.
    - (*a*) Administration of isolation and other wards. (Memo. S. G. O., Jan. 1, 1918).
17. Wards and care of patients:
    - (*a*) Ward capacity.
    - (*b*) Number of patients present.
    - (*c*) How admitted? Operation receiving ward.
    - (*d*) Care of valuables and other effects (pars. 293 and 303–304, M. M. D.).
    - (*e*) Efficiency of ward service; including nursing, bathing of patients, cleanliness of linen and clothing, and food service to bed patients.
    - (*f*) Do chiefs of service report daily, names of men dangerously ill?
    - (*g*) Are nearest relatives notified direct from hospital regarding seriously ill?
    - (*h*) Are letters from relatives promptly answered?
    - (*i*) Are post cards sent to relatives on arrival, departure, and discharge?
    - (*j*) Care of dead (pars. 87, 162½, 167, 824, A. R.).
    - (*k*) Percentage of dead which are autopsied.

*18. Kitchen and mess management:
    - (*a*) Organization and efficiency personnel.
    - (*b*) Source and quality of supplies.
    - (*c*) System of storage and issue.
    - (*d*) Diets and bill of fare.
    - (*e*) System of feeding in mess hall.

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*[Asterisks signify answers to be prepared prior to arrival of inspector].

*18. Kitchen and mess management—Continued.
   (*f*) Handling of hospital fund; amount (pars. 248–262, M. M. D.).
   (*g*) Can any of the fund be spared?
   (*h*) Have cooks and other food handlers been examined for carriers?
   (*i*) Adequacy of mess halls, kitchens, and equipment.
   (*j*) Condition of food served to wards.
   (*k*) Does nurse supervise serving in wards?
   (*l*) Food carts, number, efficiency.
   (*m*) Efficiency of dish washing.
   (*n*) Condition of bakery, cleanliness of bakers, and character of bread.
   (*o*) Adequacy of fly prevention (Cir. 133, W. D., 1919, and Cir. Letter No. 148, S. G. O., 1919).
19. Exchange:
   (*a*) Organization and administration.
   (*b*) Sanitary condition of food supplies.
   (*c*) Operating under W. D. Exchange regulations?
   (*d*) Records and dividends.
20. Laundry:
   (*a*) Organization and administration.
   (*b*) Number and duties of civilian employees.
   (*c*) Quality of work, complaints.
   (*d*) Adequacy of equipment and supplies.
   (*e*) Disinfection department.
   (*f*) Clean linen and issue department.
   (*g*) Arrangements for outside work, prices.
21. Medical supply department:
   (*a*) Are loan cards in use and checked?
   (*b*) System of issuing supplies.
   (*c*) Sufficiency of supplies.
   (*d*) Are hospital requisitions promptly filled?
   (*e*) Are medical supplies on hand in accord with balances on stock cards?
   (*f*) How often are narcotics and alcoholics checked, and by whom?
22. Supply and utilities:
   (*a*) Number of enlisted men in supply and utilities detachments. Number of civilians Are numbers adequate?
   (*b*) Status of records and property returns.
   (*c*) Sufficiency of supplies.
   (*d*) Operation of power plant, heating system, and hot-water system.
   (*e*) Water supply.
   (*f*) Sewerage system and plumbing.
   (*g*) Electric lights, other electrical appliances.
*23. Fire protection:
   (*a*) Description of system, adequacy.
24. Disposal of wastes:
25. General police of buildings and grounds.
26. Remarks:
   (*a*) Condition of morale, both of officers and enlisted personnel.
   (*b*) Efficiency of morale organization.
   (*c*) Apparent causes of poor morale if noted.
27. Résumé.
28. Recommendations made to commanding general.
29. Recommendations now made to Surgeon General.

MEDICAL INSPECTORS.

It was felt that the routine inspections made by the sanitary inspectors of the Surgeon General's Office left much uncovered that pertained to the care of the patient and the quality of the professional services rendered.

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*[Asterisks signify answers to be prepared prior to arrival of inspector].

In organizing the base hospitals throughout the country, the officers in charge of the various divisions of the Surgeon General's Office selected the principal medical officers to function in the respective services of hospitals.[2] To obtain an adequate check on the manner in which these newly selected officers were performing their duties, as well as to determine the best methods of instituting courses of instruction, the chiefs of professional divisions, or assistants, in the Surgeon General's Office, personally visited many of the hospitals,[3] or detailed traveling instructors to impart special instruction.[4]

With a view to improving the medical service, each chief of a medical service of a hospital was ordered to visit, during February and March, 1918, three other base hospitals.[5]

In August, 1918, a comprehensive system of consultation tours of chiefs of surgical services was inaugurated.[6] These consultation tours were of great advantage to commanding officers and chiefs of service as well as to the Office of the Surgeon General, in that they encouraged the mutual exchange of ideas, the consultant being prepared to give all the information which he had gathered from various hospitals visited, and he in turn was able to carry away much that was helpful in the perfection of the system of careful professional demonstration. Most of the defects found by the consultants on their visits were due to lack of knowledge as to the necessity of certain requirements of the Surgeon General's Office, and were readily corrected by such conferences. Consultants were assigned groups of camps, in geographic relation, and were instructed to cover all possible topics pertaining to every phase of surgery. Each consultant, on his return, submitted a report covering his consultation, appending a special estimate of the professional qualifications of the surgical personnel of the various camps visited.[6]

INSPECTING NURSES.

Several well-trained nurses, of large executive experience in the best civil hospitals, were assigned to duty as inspecting nurses. They visited the various Army hospitals systematically, inspecting them thoroughly, particularly with reference to nursing, but made of note any ward administrative feature requiring corrective comment.

The reports they obtained did much to stimulate a perfected organization and better care of the sick.[7]

BOARDS.

Boards of medical officers whose functions were the perfection and coordination of administration and professional care and treatment, were variously organized. These boards were both fixed and mobile.

Efficiency boards were appointed at each hospital,[8] consisting of the commanding officer and the chiefs of the medical, surgical, and laboratory services. They met twice monthly to consider questions of policy and needs of the hospital, a stenographic report of their meeting being forwarded to the Surgeon General's Office with recommendations regarding policy, equipment, accomodations, and general administration.

During the period in which epidemic diseases were prevalent, three mobile medical units were organized,[9] each composed of three officers selected for their knowledge of infectious diseases. These units were moved from one hospital to another to assist in the care of cases of infectious diseases.

During the early months of 1918 cases of pneumonia in large numbers were reported from all the camps in the South. Accompanying this epidemic of what was termed pneumonia, many cases of empyema were reported. To determine the best operative means of treating this complication, local boards were appointed, consisting of a surgeon, an internist, and a bacteriologist.[10] Information resulting from these board studies was collected in the Office of the Surgeon General and disseminated to the various camps.

A board of five officers was sent to Camp Funston in July, 1918, to make a thorough and complete study of the acute respiratory diseases at that camp, including epidemiological, bacteriological, and pathological investigation.[11] Upon the conclusion of their survey at Camp Funston, the group was transferred to Camp Pike, arriving about three weeks before the outbreak of the great epidemic. These studies were rich in results and gave a picture of the respiratory disease condition both before and after, as well as during, the epidemic, made in a similar way by the same group of men. Their reports were published in the medical literature.

CIRCULAR LETTERS AND LITERATURE.

To the personnel of hospitals, desirable information was imparted by means of circular letters.[12] These contained not only original instructions, but features obtaining at one hospital believed to possess sufficient value to warrant bringing them to the attention of commanding officers of hospitals in general.

To maintain professional efficiency, medical journals, and carefully selected practical treatises were furnished medical officers. It was realized that the exigencies of the service afforded comparatively little time for extensive reading or extensive study. Therefore, a carefully prepared digest of all important American, English, French, Italian, and German (when obtainable) contributions to surgery and medicine was distributed monthly as the *Review of War Surgery and Medicine*.[13] A Manual of Surgical Anatomy was prepared for distribution.[14] This manual was a volume of anatomical plates, without text, selected because of their use in war surgery. The British Official Manual of the Injuries and Diseases of War was widely distributed,[15] as was Abstracts of War Surgery,[16] furnishing abstracts, topically arranged, of all the important surgical articles published by the allies from the declaration of war to the time of American participation.

The Division of Infectious Diseases and Laboratories, at the very beginning of its work, instituted measures tending to standardize technique throughout the laboratories of the Army to such a degree as would make results from different parts of the country similar and at the same time permit individual officers to use their own ingenuity and any particular ability they might possess to simplify accepted methods and elaborate new methods which might be found of value in diagnosis and treatment. The Rockefeller Institute published Monograph No. 7 of that institution, on the subject of "Acute Lobar Pneumonia, Prevention and Serum Treatment," aiming at standardization.[17] Early in 1917, a monograph was published by the same institution on request of the Surgeon

General, entitled "Mode of Infection, Means of Prevention, and Specific Treatment of Epidemic Meningitis."[18] At a somewhat later date, following a conference at the Surgeon General's Office, a standard procedure and technique for the isolation of meningococcus was adopted, and pamphlets describing these procedures were distributed.[19] As a result of a subsequent conference a similar circular was distributed describing the technique for isolating the types of streptococci.[20]

During the same period and continuing throughout the year 1917, data were accumulated for a manual to be distributed to Army laboratories and to cover, in a comprehensive manner, the technique of the more important procedures to be used in laboratory diagnosis.[21] From time to time, as new methods of laboratory procedure were developed, and their value demonstrated, reprints of articles describing them were distributed to the service laboratories, while circulars describing recent advances and suggested methods of procedure were occasionally sent out from the Surgeon General's Office.

With the purpose of using all preventive aids and of applying modern scientific methods to the cure of such venereal diseases as did occur, the Surgeon General appointed a committee of specialists in genitourinary diseases and syphilis, which, in addition to other labors with which it was concerned, prepared a manual for the use of medical officers, giving a brief summary of existing knowledge on the subject.[22]

The Division of Head Surgery distributed books dealing with special surgery of the head and all its branches;[23] and the Division of Orthopedic Surgery furnished special books for the guidance of officers concerned with that specialty.[24]

In the Division of Physical Reconstruction, all available literature on reconstruction and rehabilitation of the disabled was analyzed and compiled. Four mimeographed and illustrated bulletins giving the complete account of the rehabilitation of soldiers in all the belligerent countries were prepared and distributed chiefly to medical officers of the Army.[25] With the issue of May, 1918, these bulletins were discontinued and their place was taken by *Carry On*—a monthly magazine edited by a board created by the Surgeon General.[26]

Instructional moving-picture films, including among the more important, the diagnosis of tuberculosis, eradication of louse infection, mosquito eradication, reconstruction, and training of a medical officer, were produced by the Surgeon General's Office for general exhibition.[27]

REFERENCES.

(1) Annual Report of the Surgeon General, U. S. Army, 1918, 273.
(2) Ibid., 344, 347–348.
(3) Ibid., 350–351.
(4) Ibid., 344.
(5) Ibid., 347.
(6) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1086.
(7) Annual Report of the Surgeon General, U. S. Army, 1918, 309.
(8) Circular letter from the Surgeon General to commanding officers of hospitals, February 19, 1918.
(9) Minutes of the meeting of the pneumonia board, August 16, 1918. On file, Record Room, S. G. O., 334. 7–1 (Boards).
(10) Annual Report of the Surgeon General, U. S. Army, 1918, 351–352.

(11) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1043.

(12) Ibid., 1153.

(13) *Review of War Surgery and Medicine*, Vol. I, Nos. 1 to 10 (March to December), 1918; Vol. II, Nos. 1 to 6 (January to June), 1919. Government Printing Office.

(14) Manual of Surgical Anatomy, Office of the Surgeon General, U. S. Army, 1918.

(15) Injuries and Diseases of War. A manual based on experiences of the present campaign in France. January, 1918. Reprint of the Official British Manual. Government Printing Office, Washington, 1918.

(16) Abstracts of War Surgery. Surgeon General's Office, 1918.

(17) Monograph No. 7. Acute Lobar Pneumonia, Prevention and Serum Treatment. The Rockefeller Institute for Medical Research, 1917. Waverly Press, Baltimore, Md.

(18) Mode of Infection, Means of Prevention, and Specific Treatment of Epidemic Meningitis. Simon Flexner. The Rockefeller Institute for Medical Research, 1917.

(19) Circular letter from Surgeon General to officers in charge of laboratories, 1917. Subject: Technique for detecting meningococcus carriers. On file, Laboratory Section, Division of Sanitation, Surgeon General's Office, 730 (Laboratory Technology).

(20) Recommendation of the Committee on a Standard Routine Method for the Detection and Isolation of Hemolytic Streptococci from Throats, Sputa, Pathological Exudates. On file Laboratory Section, Division of Sanitation, S. G. O. 730 (Laboratory Technology).

(21) Medical War Manual No. 6. Laboratory Methods, U. S. Army. Compiled by the Division of Infectious Diseases and Laboratories. First edition, 1918; second edition, 1919. Surgeon General's Office.

(22) A Manual of Treatment of the Venereal Diseases. Prepared under the direction of the Surgeon General of the Army. First edition, 1917; second edition, 1918; third edition, 1919. Chicago American Medical Association.

(23) (*a*) Manual of Ophthalmology. Prepared by the Subsection of Ophthalmology, Section of Surgery of the Head, Division of Surgery, Office of the Surgeon General, War Department. Government Printing Office, 1917.
  (*b*) Medical War Manual No. 3. Lea and Febiger, Philadelphia and New York, 1918.
  (*c*) War Surgery of the Nervous System. Compiled by the Division of Brain Surgery, Section of Surgery of the Head, Office of the Surgeon General, War Department, Washington, August 26, 1917.
  (*d*) Surgery and Diseases of the Mouth and Jaws. V. P. Blair. Third edition. C. V. Mosby Co., St. Louis, Mo., 1917.
  (*e*) Medical War Manual No. 8. Lea and Febiger, Philadelphia and New York, 1918.
  (*f*) Survey of Head Surgery. Prepared by the Division of Surgery of the Head in the Office of the Surgeon General. August, 1918, to January, 1919.
  (*g*) Manual of Neuro-Surgery. Prepared under the direction of the Neuro-Surgical Section of the Division of Surgery in collaboration with the Sections of Head Surgery, General Surgery, Orthopedic Surgery and Neuro-Psychiatry, the Army Neuro-Surgical Laboratories, and the Instruction Laboratories of the Army Medical Museum. Government Printing Office, Washington, 1919.

(24) (*a*) Minor Foot Ailments, Shoe Fitting. A manual for noncommissioned officers and selected enlisted men. Prepared under the Direction of the Surgeon General, U. S. Army.
  (*b*) Medical War Manual No. 4, Military Orthopedic Surgery. Prepared by the Orthopedic Council, Medical Department, U. S. Army. Lea and Febiger, Philadelphia and New York, 1918.

(25) Reconstruction Bulletin Nos. 1 to 4 (January, March, April, May, 1918). Copy on file, Journal Reprint Section, S. G. O.

(26) *Carry On*. Published for the Surgeon General by the Red Cross Institute for Crippled. New York City. Vol. I, Nos. 1 to 7, June to December, 1918, inclusive. Vol. II, Nos. 8 to 10, January to March, 1919, inclusive.

(27) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1064.

CHAPTER X.

CORRELATED ACTIVITIES.

POST EXCHANGES.

Post exchanges were established and maintained at practically all the large hospitals,[1] under regulations promulgated by the War Department.[2] They were provided to afford opportunities to both members of detachments and patients to purchase at reasonable prices articles in ordinary use, wear, and consumption not supplied by the Government, as well as means of rational recreation and amusement.[3]

Though the War Department provided buildings for exchanges, initial stock was obtained on credit.[4] This necessarily caused a modest beginning on such articles as candy, soft drinks, and tobacco. Essential fixtures for the adequate storage or display of the stock, as well as for adjuncts like the barber shop, were gradually obtained as business grew.

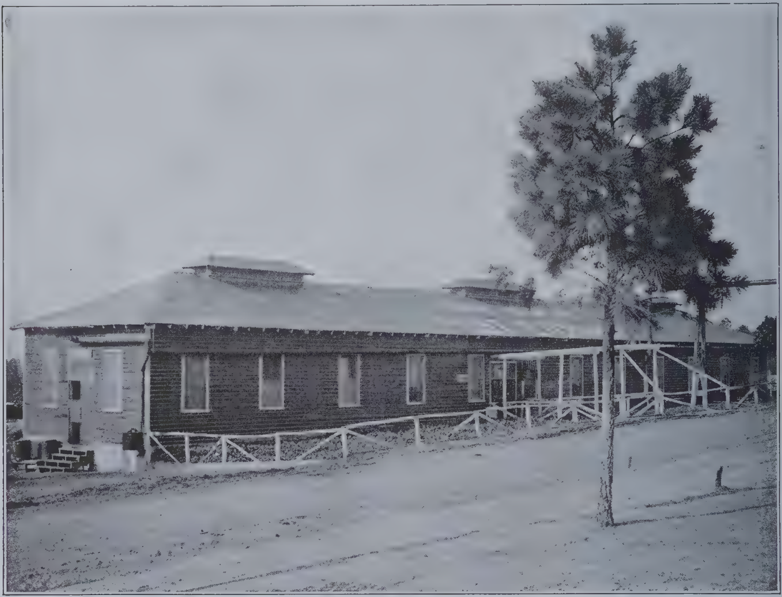


FIG. 69.—A post exchange building.

The features of post exchanges included a well-stocked general store, in which such goods were kept as those usually required at military posts, and a barber shop.

The exchanges accomplished considerable in aiding the upkeep of the morale of those in hospitals during the war period.

The system of operating them provided for the extension of credit through the use of checks or coupons representing values and exchangeable for merchandise or other charges at the exchange to the enlisted man.[5] The authorized credit could not exceed one-third of the pay, of the soldier to whom it was given, for any one month.

Each hospital exchange was directly in charge of an officer detailed from the personnel of the hospital and operated by enlisted men from the detachment. A council of administration, which met at least once monthly and which comprised the officer in charge of the exchange and officers in charge of the detachments of the hospital, audited the financial records of the exchange, checked the stock and funds on hand, outlined the business policy to be pursued, and, with the approval of the commanding officer, determined the disposition of profits; that is, that portion which would be given the general mess or otherwise utilized for recreational benefit of the enlisted men of the hospital.[5]

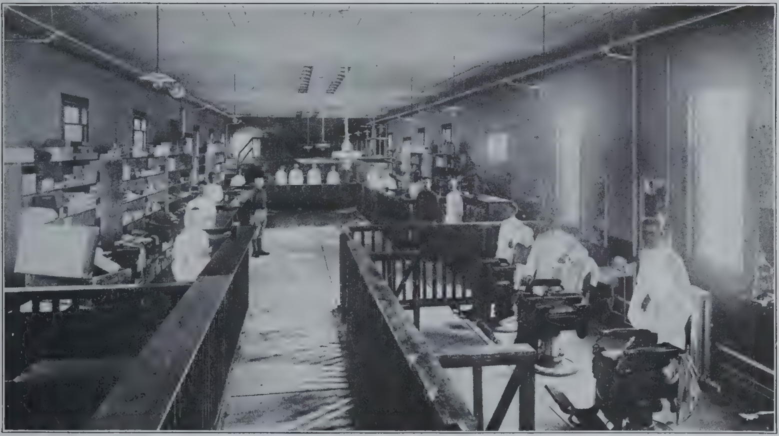


FIG. 70.—Interior of a post exchange.

RELIGIOUS AND FRATERNAL AGENCIES.

Immediately after war was declared by the United States the Young Men's Christian Association tendered its services for the promotion of the social, physical, intellectual, and moral welfare of the enlisted men. As a result of this, official recognition of the association was given in an order of the President issued in May, 1917.[6] The scope of the duties accomplished by the Y. M. C. A. included the Army as a whole, but among its features were regular forms of service to the patients and duty personnel of hospitals, promoted through Y. M. C. A. hospital buildings or visits made by secretaries, the use of Y. M. C. A. buildings for overflow sick, and the institution of a system of rehabilitation gymnastics.[7] There were variations in the geographic location of the Y. M. C. A. building in the groups of structures representing the hospitals, as well as the use to which it was put. The following description of the activities of the Y. M. C. A. hut at the base hospital, Camp Devens, Mass., may be taken as a fair sample to picture the accomplishments of the association in the military hospitals of this country:[8]

> The Y. M. C. A. is a building about 50 by 75 feet, located opposite the enlisted men's barracks and connected with the wards by a covered corridor. This building has been freely used by both the enlisted men and the patients. Basket ball and other indoor sports were carried on during the winter, and an hour for the officers was reserved twice a week. Entertainments of some sort are given nearly every evening, such as moving pictures, addresses, concerts, and an occasional dramatic entertainment. On Sundays religious services are held in this building by the chaplain or some visiting clergyman. There is also a room for reading and writing.

Other religious or fraternal organizations were also desirous of performing a service largely concerned with the recreation of both patients and personnel of hospitals. These organizations had been given an official standard by the Secretary of War in January, 1918.[9]

The Knights of Columbus established social service "huts" at a few of the hospitals and at others maintained its social service through representatives from neighboring clubs.[10] The Jewish Welfare Board likewise contributed its share to recreational facilities, by erecting buildings in some of the hospital groups or by the establishment of recreational centers in the vicinity of a hospital.[11] These organizations provided special ward entertainment for men confined to bed, and distributed fruits, lemonade, and other refreshments.

THE RED CROSS.

Red Cross convalescent houses were built by the Red Cross, in connection with each hospital, to provide a place of recreation and amusement for sick and wounded who were convalescent. In these convalescent houses personnel was provided for Red Cross work among the patients.[12] This work included all manner of personal service to the men, entertainments, games, and the teaching of handicraft. The Red Cross houses were turned over to the commanding officers of hospitals, and became, to all intents and purposes, wards of the hospital, intended primarily for the use of convalescents.

There was also built, in connection with each of the larger hospitals, a recreation house for the nurses.[13]

AMUSEMENTS AND RECREATIONS.

Amusements and recreations were variously evaluated by the commanding officers of hospitals and, though amusements were systematized somewhat by the correlated activities, there were ample opportunities for the display of initiative in the provision of both of these features. Moving pictures, band concerts, phonographs, and entertainments played a prominent part in the amusement of those in hospitals generally, and though there were some in which there was a paucity of variety, many reports evince earnest and highly successful efforts made to provide every available form of amusement suitable not only for patients but duty personnel as well. Social activities were intelligently managed at many of the hospitals, with a view to maintaining the highest possible degree of morale. Athletic fields were an adjunct of most of the hospitals,[14] whereon baseball, football, track meets, etc., were participated in. At some hospitals bowling alleys were constructed[15] and at others swimming pools were installed.[16]

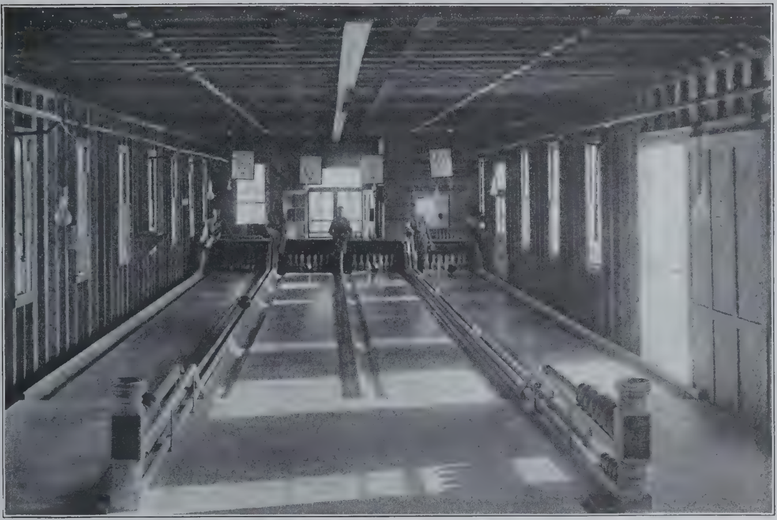


FIG 71.—A base hospital bowling alley.

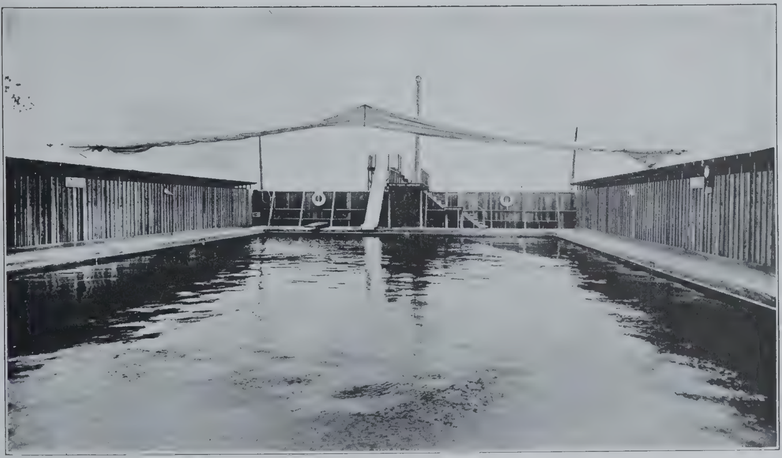


FIG. 72.—A swimming pool at Base Hospital, Camp MacArthur, Texas.

THE AMERICAN LIBRARY ASSOCIATION.

In the hospitals of this country, the American Library Association developed a well-organized service which provided for free distribution of library books to both duty personnel and patients.[17] Books, magazines, and newspapers were supplied to approximately 150 hospitals, in each of which expert administration or supervision was provided by trained librarians. In reconstruction hospitals the association strongly supported educational work by supplying every technical book for which patients demonstrated a real need.

HOSPITAL NEWSPAPERS AND MAGAZINES.

Toward the latter part of the year 1918 a distinct need was felt for some means of disseminating items of news, not only to the patients, now beginning to return to the United States from hospitals abroad, to their relations and friends, but to the personnel of the hospitals as well. To fulfill this need the publication of newspapers and magazines by the hospitals was encouraged; and in November, 1918, the General Publicity Board of the Surgeon General's Office was charged with the duty of the establishment and supervision of newspapers at Army hospitals.[18]

On December 5, 1918, the first of these papers *The Come-Back*, was published at Walter Reed General Hospital, Takoma Park, D. C. In rapid succession other hospital publications appeared; and ultimately there were those which are shown in the following list:

Publication.	Hospital.
Biand-Foryu	General Hospital No. 42, Spartanburg, S. C.
The Chevron	General Hospital No. 25, Fort Benjamin Harrison, Ind.
The Caduceus	Base Hospital, Camp Greene, N. C.
The Base Hospital Daily Bulletin	Base Hospital, Camp Custer, Mich.
The Cure	Base Hospital, Camp Upton, Long Island, N. Y.
The Fort Bayard News	General Hospital, Fort Bayard, N. Mex.
Fort Porter Reporter	General Hospital No. 4, Fort Porter, N. Y.
Gee Aitch 43 *The Orphan* *Keep the Cadence*	General Hospital No. 43, Hampton, Va.
Fort Des Moines Post	General Hospital No. 26, Fort Des Moines, Iowa.
The Hospital Breeze	Base Hospital, Fort Riley, Kans.
The Fort Sheridan Recall	General Hospital No. 28, Fort Sheridan, Ill.
The Mess Kit	Base Hospital, Camp Merritt, N. J.
McPherson Booster	General Hospital No. 6, Fort McPherson, Ga.
The Listening Post	Letterman General Hospital, San Francisco, Calif.
The Oteen	General Hospital No. 19, Oteen (Azalea), N. C.
The Open Window	General Hospital No. 8, Otisville, N. Y.
The Hustler	General Hospital No. 16, New Haven, Conn.
Over Here	General Hospital No. 3, Rahway, N. J.
The Stimulant	General Hospital No. 9, Lakewood, N. J.
'Tenshun 21	General Hospital No. 21, Denver, Colo.
The West's Recall	General Hospital No. 20, Whipple Barracks, Ariz.
Up Grade	General Hospital No. 31, Carlisle, Pa.
Under the Dome	General Hospital No. 35, West Baden, Ind.
Whizz-Bang	General Hospital No. 10, Boston, Mass.
The Ward Healer	General Hospital No. 12, Biltmore, N. C.
The Trouble Buster	General Hospital No. 2, Fort McHenry, Md.
The Right About	Debarkation Hospital No. 3, Greenhut Building, New York, N. Y.

Publication.	Hospital.
The Come-Back	Walter Reed General Hospital, Takoma Park, D. C.
As You Were	General Hospital No. 24, Parkview Station, Pittsburgh, Pa.
The Plattsburg Reflex	General Hospital No. 30, Plattsburg Barracks, N. Y.
The Star Shell	General Hospital No. 17, Markleton, Pa.
The Pill Box	Debarkation Hospital No. 1, Ellis Island, N. Y.
Ontario Post	General Hospital No. 5, Fort Ontario, N. Y.
The Hospital Review	General Hospital No. 1, Williamsbridge, New York City.
Base Hospital Journal	Camp Sherman, Ohio.
Home Again	Debarkation Hospital No. 2, Fox Hills, Staten Island, N. Y.
Over the Top	Base Hospital, Camp Zachary Taylor, N. Y.
Heads Up	Debarkation Hospital No. 52, Richmond College, Va.
Azuwer	General Hospital No. 36, Detroit, Mich.
The Reclaimer	General Hospital No. 34, East Norfolk, Mass.
D-Barker	Debarkation Hospital No. 51, National Soldier's Home. Va.
The Hospital Records	Base Hospital, Camp Cody, Deming, N. Mex.
The Post Post	General Hospital No. 11, Cape May, N. J.
The Reveille	General Hospital No. 29, Fort Snelling, Minn.
Here and There	Base Hospital, Camp Meade, Md.
The Silver Chev'	Camp Hospital, Camp Grant, Ill.
Weekly Inspection	Base Hospital, Camp Lewis, Wash.
The Camouflage	Base Hospital, Camp Wheeler, Ga.
About Face	Base Hospital, Fort Sam Houston, Tex.
The Bomb Proof	General Hospital No. 18, Waynesville, N. C.

Many of the names of these newspapers suggest the implied, cheerful nature of the contents of the pages they captioned. Indeed, cheerfulness was the consistent watchword of all of them without exception. Within their pages were to be found interesting articles which dealt with the Medical Department at large, with the hospitals concerned, and with the individuals within them. They were used for the more serious purpose of affording the opportunity to patients to mentally or manually benefit themselves by the training and education embraced in any branch of printing and the mechanical operations of newspaper work, as well as in reporting, advertising, circulating, editorial writing, illustrating, cartooning, and story writing.

The newspapers were aided by the General Publicity Board in obtaining an advertising patronage which resulted in making it possible to issue an attractively appearing publication that could not but be appreciatively welcomed by those for whom it was intended.

REFERENCES.

(1) Annual Report of the Surgeon General, U. S. Army, 1918, 318.
(2) A. R. 345, 1913.
(3) S. R. No. 59, 1917, Par. 12.
(4) Ibid., Par. 15.
(5) Ibid., Par. 22.
(6) G. O. No. 57, W. D., May 9, 1917.
(7) Galley proof of Official Report of War Activities of the Young Men's Christian Association. On file, Historical Division, S. G. O.
(8) Taken from a statement in History of Base Hospital, Camp Devens, Mass. On file, Record Room, S. G. O., 314.7 (Base Hospital, Camp Devens) D.
(9) G. O. No. 2, W. D., January 7, 1918.

(10) "Medical Care Provided by National Catholic War Council." On file, Historical Division, S. G. O.

(11) A Handbook of Economic Agencies of the War of 1917. Memo. No. 3. Historical Branch, War Plans Division, General Staff, 1919, 240–241.

(12) The American Red Cross Assistance to the Medical Department of the Army in the United States, by Lieut. Col. C. H. Connor, M. C. On file, Historical Division, S. G. O.

(13) The American National Red Cross Annual Report for the Year Ending June 30, 1918, 65.

(14) Taken from Histories of Base Hospitals at Camps Jackson, Lee, McClellan, Sevier, Shelby, and Taylor. On file, Historical Division, S. G. O.

(15) Taken from History of Base Hospital, Camp Jackson. On file, Historical Division, S. G. O.

(16) Taken from Histories of Base Hospitals at Camp Bowie and Camp MacArthur. On file, Historical Division, S. G. O.

(17) Special Report from the American Library Association, War Service. On file, Historical Division, S. G. O.

(18) Memo. of conference with General Munson, chief of Morale Branch of the General Staff, November 15, 1918. On file, Record Room, S. G. O. 250–2 (Morale).

CHAPTER XI.

DISTRIBUTION OF OVERSEAS PATIENTS.

Early in 1918, preparations were made to care for the return of a large number of overseas sick and injured.[1] Shortly after the signing of the armistice, information was received indicating that the sick would be evacuated to the United States at an estimated monthly rate of about 10,000.[2] As it subsequently developed, this estimate proved to be too low, for in January, 1919, 20,847 patients were returned;[3] in February, the number was 15,086;[3] and in March it exceeded 27,000.[3]

During the period from April 1, 1918, when the first patients were received from abroad, to December, 1919, 147,868 patients had been debarked at the ports.[3] Of this number, 108,337 arrived at the port of Hoboken, 39,341 at Newport News, and 190 at Boston.

Boston was not a regular port of debarkation; the reception of patients at that port was occasioned by the fact that in August, 1918, and in the following September, ships returning to the United States were diverted thereto as a military measure.[4]

The following table shows the number of patients arriving at Hoboken, Newport News, and Boston, by month, from April, 1918, to December, 1919:[3]

TABLE 9.—*Number of overseas patients arriving at Hoboken, Newport News, and Boston.*

	Boston.	Hoboken.	Newport News.	Total.
1918.				
April	....	121	66	187
May	....	135	271	406
June	....	339	330	669
July	....	484	346	830
August	42	854	292	1,146
September	148	890	800	1,690
October	....	2,547	1,420	3,967
November	....	3,191	2,776	5,967
December	....	9,143	2,768	11,911
1919.				
January	....	10,935	9,912	20,847
February	....	10,543	4,543	15,086
March	....	20,825	6,374	27,199
April	....	17,726	2,886	20,612
May	....	12,250	2,754	15,004
June	....	7,724	2,667	10,391
July	....	3,822	917	4,739
August	....	1,974	201	2,175
September	....	1,287	18	1,305
October	....	1,726	....	1,726
November	....	1,623	....	1,623
December	....	198	....	198
Total	190	108,337	39,341	147,868

In the distribution of these cases there were two determining factors: The desire of the War Department and of the patients concerned that their distribution be made to hospitals as near their homes as possible; and the necessity for assigning certain cases to special hospitals planned and equipped for their care. It was essential, therefore, that before proper distribution of

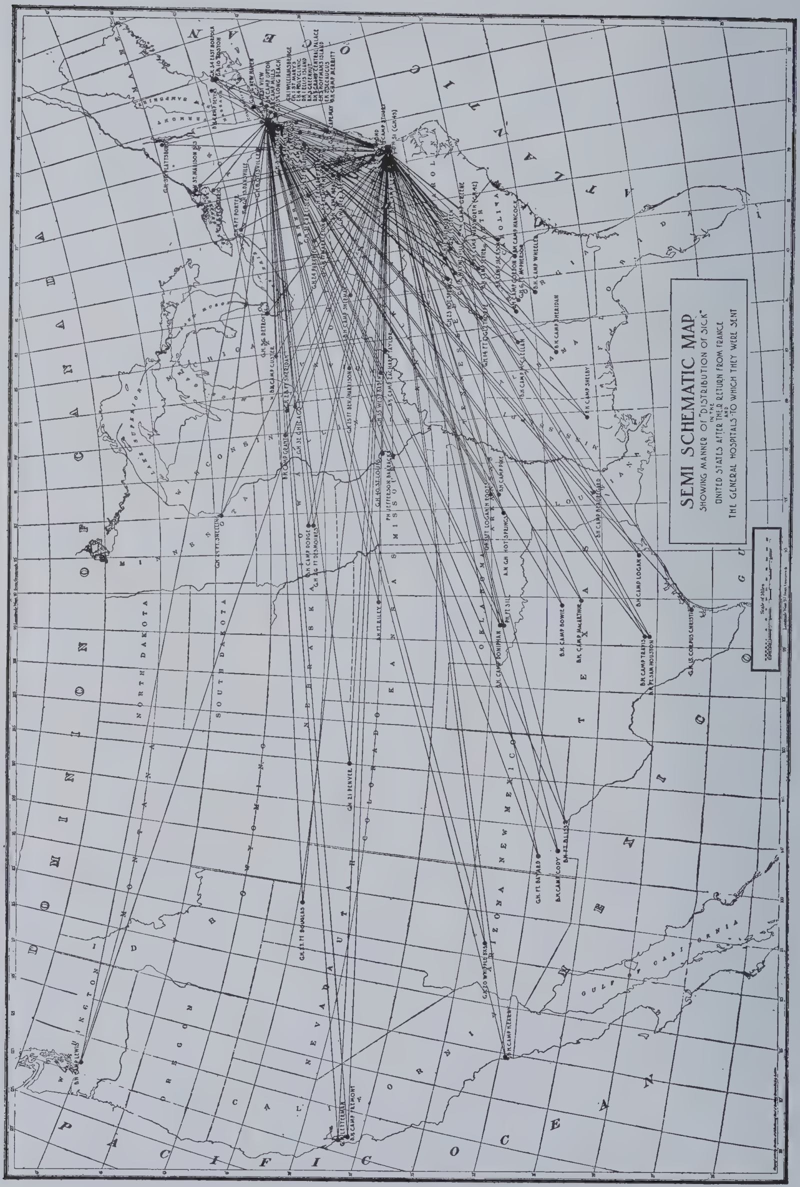

SEMI SCHEMATIC MAP
SHOWING MANNER OF "DISTRIBUTION OF SICK" IN THE
UNITED STATES AFTER THEIR RETURN FROM FRANCE AND
THE GENERAL HOSPITALS TO WHICH THEY WERE SENT
DOMINION OF CANADA
ATLANTIC OCEAN
PACIFIC OCEAN
GULF OF MEXICO
G.H. 21 DENVER
G.H. 22 FT DOUGLAS
G.H. 20 WHIPPLE BKS
B.H. CAMP KEARNY
LETTERMAN
B.H. CAMP FREMONT
B.H. CAMP LEWIS
G.H. FT BAYARD
B.H. CAMP CODY
B.H. FT BLISS
B.H. CAMP DONIPHAN
FT SILL
B.H. CAMP BOWIE
B.H. CAMP MacARTHUR
B.H. CAMP TRAVIS
B.H. FT SAM HOUSTON
G.H. 15 CORPUS CHRISTI
B.H. CAMP LOGAN
B.H. CAMP BEAUREGARD
B.H. CAMP PIKE
B.H. CAMP SHELBY
B.H. CAMP SHERIDAN
G.H. 14 FT OGLETHORPE
B.H. CAMP WHEELER
B.H. CAMP HANCOCK
B.H. CAMP GORDON
B.H. CAMP GREENE
B.H. CAMP DODGE
G.H. 26 FT DES MOINES
G.H. 29 FT SNELLING
G.H. 32 CHICAGO
G.H. 28 FT SHERIDAN
B.H. CAMP GRANT
B.H. CAMP CUSTER
G.H. 36 DETROIT
G.H. 40 ST LOUIS
P.H. JEFFERSON BARRACKS
B.H. FT RILEY
B.H. CAMP ZACHARY TAYLOR
B.H. CAMP SHERMAN
G.H. 10 BOSTON
B.H. CAMP UPTON
Scale of Miles

FIG. 73.

patients could be made, they all be classified in accordance with their places of residence and the character of the disease or injury for which treatment was indicated.

The list given below shows the classification decided upon and the hospitals which were suitable for the reception and care of the various kinds of cases:[5]

Character of cases.	Designated hospitals.
Amputations	Arriving at Port of Embarkation, Hoboken, N. J., to General Hospital No. 3, Colonia, N. J. Arriving at Port of Embarkation, Newport News, Va., to Walter Reed General Hospital, Takoma Park, D. C. Walter Reed General Hospital, Takoma Park, D. C. Letterman General Hospital, San Francisco, Calif. General Hospital No. 3, Colonia, N. J. General Hospital No. 6, Fort McPherson, Ga. General Hospital No. 26, Fort Des Moines, Iowa.
Arthritis, chronic (nontraumatic)	Letterman General Hospital, San Francisco, Calif. Walter Reed General Hospital, Takoma Park, D. C. General Hospital No. 6, Fort McPherson, Ga. General Hospital No. 26, Fort Des Moines, Iowa. General Hospital No. 28, Fort Sheridan, Ill. General Hospital No. 2, Fort McHenry, Md.
Blindness (partial or total)	General Hospital No. 2, Fort McHenry, Md.
Epileptics and mental defectives	Walter Reed General Hospital, Takoma Park, D. C. Letterman General Hospital, San Francisco, Calif. General Hospital No. 6, Fort McPherson, Ga. General Hospital No. 28, Fort Sheridan, Ill. Base Hospital, Fort Sam Houston, Tex.
Eye, ear, nose, and throat (wounds and injuries or diseases requiring surgical treatment of importance)	Walter Reed General Hospital, Takoma Park, D. C. Letterman General Hospital, San Francisco, Calif. General Hospital No. 2, Fort McHenry, Md.
Insane	Walter Reed General Hospital, Takoma Park, D. C. Letterman General Hospital, San Francisco, Calif. General Hospital No. 28, Fort Sheridan, Ill. General Hospital No. 43, Hampton, Va. Base Hospital, Fort Sam Houston, Tex.
Maxillofacial (injuries of the face and jaw)	Walter Reed General Hospital, Takoma Park, D. C. General Hospital No. 2, Fort McHenry, Md. Post Hospital, Jefferson Barracks, Mo.
Medical cases, general (including cardiovascular, diabetes, and gassed cases)	Walter Reed General Hospital, Takoma Park, D. C. Letterman General Hospital, San Francisco, Calif. General Hospital No. 2, Fort McHenry, Md. General Hospital No. 5, Fort Ontario, N. Y. General Hospital No. 6, Fort McPherson, Ga. General Hospital No. 12, Biltmore, N. C. General Hospital No. 22, Philadelphia, Pa. General Hospital No. 24, Parkview, Pa. General Hospital No. 25, Fort Benjamin Harrison, Ind. General Hospital No. 26, Fort Des Moines, Iowa. General Hospital No. 27, Fort Douglas, Utah. General Hospital No. 28, Fort Sheridan, Ill. General Hospital No. 29, Fort Snelling, Minn. General Hospital No. 30, Plattsburg Barracks, N. Y. General Hospital No. 31, Carlisle, Pa. General Hospital No. 36, Detroit, Mich. General Hospital No. 38, East View, N. Y. General Hospital No. 41, Fox Hills, Staten Island, N. Y. Base Hospital, Fort Sam Houston, Tex. Base Hospital, Fort Riley, Kans.

Character of cases.	Designated hospitals.
Nervous system (organic disease)	Walter Reed General Hospital, Takoma Park, D. C. Letterman General Hospital, San Francisco, Calif. General Hospital No. 2, Fort McHenry, Md. General Hospital No. 6, Fort McPherson, Ga. General Hospital No. 26, Fort Sheridan, Ill. Base Hospital, Fort Sam Houston, Tex.
Neuroses (functional)	General Hospital No. 4, Fort Porter, N. Y.
Orthopedic cases	Walter Reed General Hospital, Takoma Park, D. C.
1. Deformities of extremities due to or associated with contractures of muscles, ligaments, and tendons.	Letterman General Hospital, San Francisco, Calif. General Hospital No. 2, Fort McHenry, Md.
2. Derangements and disabilities of joints, including articular fractures.	General Hospital No. 3, Colonia, N. J. General Hospital No. 6, Fort McPherson, Ga.
3. Deformities and disabilities of the feet	General Hospital No. 26, Fort Des Moines, Iowa.
4. Cases requiring tendon transplantation	General Hospital No. 28, Fort Sheridan, Ill. General Hospital No. 41, Fox Hills, Staten Island, N. Y. Base Hospital, Fort Riley, Kans. Base Hospital, Fort Sam Houston, Tex.
Peripheral nerve injuries and paralyses (including healed or unhealed wounds with or without fracture)	Walter Reed General Hospital, Takoma Park, D. C. Letterman General Hospital, San Francisco, Calif. General Hospital No. 2, Fort McHenry, Md. General Hospital No. 6, Fort McPherson, Ga. General Hospital No. 26, Fort Des Moines, Iowa. General Hospital No. 28, Fort Sheridan, Ill. General Hospital No. 41, Fox Hills, Staten Island, N. Y. Base Hospital, Fort Sam Houston, Tex.
Speech defects and hearing	General Hospital No. 41, Fox Hills, Staten Island, N. Y.
Surgical cases, general	Walter Reed General Hospital, Takoma Park, D. C.
1. Unhealed wounds of soft parts in general	Letterman General Hospital, San Francisco, Calif.
2. All fractures of upper extremities, except articular fractures, where the joint lesion was the major condition. This included unhealed or healed wounds, nonunion, delayed union, or malunion	General Hospital No. 2, Fort McHenry, Md. General Hospital No. 3, Colonia (Rahway), N. J. General Hospital No. 6, Fort McPherson, Ga. General Hospital No. 24, Parkview, Pa. General Hospital No. 25, Fort Benjamin Harrison, Ind. General Hospital No. 26, Fort Des Moines, Iowa. General Hospital No. 27, Fort Douglas, Utah. General Hospital No. 28, Fort Sheridan, Ill. General Hospital No. 29, Fort Snelling, Minn. General Hospital No. 30, Plattsburg Barracks, N. Y. General Hospital No. 31, Carlisle, Pa. General Hospital No. 36, Detroit, Mich. General Hospital No. 38, East View, N. Y. General Hospital No. 41, Fox Hills, Staten Island, N. Y. Base Hospital, Fort Sam Houston, Tex. Base Hospital, Fort Riley, Kans.
Surgical cases, fractures of the lower extremities, where the joint lesion was the major condition. This included unhealed or healed wounds, nonunion, delayed union, or malunion	Walter Reed General Hospital, Takoma Park, D. C. Letterman General Hospital, San Francisco, Calif. General Hospital No. 2, Fort McHenry, Md. General Hospital No. 3, Colonia, N. J. General Hospital No. 6, Fort McPherson, Ga. General Hospital No. 26, Fort Des Moines, Iowa. General Hospital No. 28, Fort Sheridan, Ill. General Hospital No. 31, Carlisle, Pa. General Hospital No. 41, Fox Hills, Staten Island, N. Y. Base Hospital, Fort Sam Houston, Tex.

Character of cases.	Designated hospitals.
Tuberculosis, pulmonary	General Hospital, Fort Bayard, N. Mex. General Hospital No. 8, Otisville, N. Y. General Hospital No. 16, New Haven, Conn. General Hospital No. 19, Oteen (Biltmore), N. C.. General Hospital No. 20, Whipple Barracks, Ariz. General Hospital No. 21, Denver, Colo. General Hospital No. 42, Spartanburg, S. C.
Venereal disease and its sequelæ, where venereal disease was major disability.	Any hospital caring for medical cases.
Wounds or injuries of the skull or brain (including traumatic epilepsy)	Walter Reed General Hospital, Takoma Park, D. C. Letterman General Hospital, San Francisco, Calif. General Hospital No. 2, Fort McHenry, Md. General Hospital No. 6, Fort McPherson, Ga. General Hospital No. 26, Fort Des Moines, Iowa. General Hospital No. 28, Fort Sheridan, Ill. Base Hospital, Fort Sam Houston, Tex.
Patients benefited by waters of Hot Springs, Ark	Army and Navy General Hospital, Hot Springs, Ark.

No attempt was made to classify these cases in a scientific manner; the list was provided merely to enable port surgeons to determine where to send cases.[6]

Prior to November, 1918, the base hospitals which had been established at each of the 32 camps, as well as the larger post hospitals, could not be used for the treatment of overseas sick. For this there were two reasons: The hospitals were practically taxed to their capacity to care for the sick of their respective commands; and it was believed inadvisable to send sick and wounded from the battle fields of Europe to home hospitals where they would come in contact with troops, practically all recruits, who were being trained for service in the field. Therefore, no attempt was made to send overseas sick to these hospitals until after the signing of the armistice and home activities had been changed from mobilization to demobilization.[7]

By November, 1918, the strength of commands at various camps had been materially reduced by the hurried departure of troops for duties overseas;[8] and as demobilization proceeded it was found that the objections to the use of hospitals, at mobilization camps, for overseas patients no longer obtained. It was then determined to utilize these hospitals for the treatment of those whose homes were in the vicinity of the respective camps, cantonments, and the larger Army posts.[9] By sending to these hospitals patients whose disabilities were of such a nature as not to require special treatment, the Medical Department was able to distribute a greater percentage of sick to the immediate vicinity of their homes.[10]

In June, 1919, demobilization of the Army, which naturally included Medical Department personnel, had proceeded to such an extent as to make the maintenance of camp base hospitals at full capacity impractical and fortunately unnecessary.[11] The incidental reduction of the strengths of camp commands was such that in some instances their hospitals could be maintained at one-fourth normal capacity and still provide sufficient accommodations for sick of the command.[11] By this time the number of additional overseas sick to be cared for was relatively small, as 90 per cent of them had already been returned to the United States.[12] It was therefore decided that, after May 31, 1919, all overseas sick would be sent to general hospitals only.[13] The following table shows what disposition was made of the 136,097 American Expeditionary Forces sick and wounded arriving at Hoboken and Newport News during the period April 1, 1918, to June 30, 1919. It shows also to what extent the hospitals in the camps were used for the various classes of these cases after the armistice.

TABLE 10.—*Patients from American Expeditionary Forces transferred to general and base hospitals from ports at Hoboken and Newport News, April 1, 1918, to June 30, 1919, inclusive—Classification of cases transferred.* [a]

	Amputations.		Epileptics.		Head.		Maxillofacial.		Medical.		Mental.		Mental defectives.		Neurosis.		Orthopedic.		Peripheral nerve.		Surgical.		Tuberculosis.		Venereal.		Total.		Grand total.
	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	Hoboken.	Newport News.	
GENERAL HOSPITALS.																													
Army and Navy, Hot Springs, Ark.									225	27							1				76	9					302	36	338
Fort Bayard, N. Mex.																							481	99			481	99	580
Letterman, San Francisco, Calif.	36	10	7	7	40	21		1	363	122	36	14	10		7	2	334	52	38	4	417	176	1	1	9		1,298	410	1,708
Walter Reed, Takoma Park, D. C.	667	522	38	18	174	209	25	17	654	276	171	41	54	1	11	1	605	196	82	15	472	413		1	1	1	2,954	1,711	4,665
No. 1, Williamsbridge, N. Y	2		70	6	34	14			534	57	94	37	62	16	35	9	404	18	161	2	704	47	2		2		2,104	206	2,310
No. 2, Fort McHenry, Md	6	7	2	20	1,386	387	127	39	787	418	61	42	4	1		14	493	373	143	94	593	343	1	1	9	8	3,612	1,747	5,359
No. 3, Colonia, N. J	118	50			20	5		4	260	28						2	992	167	34	15	364	372					2,788	643	3,431
No. 4, Fort Porter, N. Y									7		784	340	1		57	36											849	376	1,225
No. 5, Fort Ontario, N. Y					2				903	225	3	3	1		14	6	32	3			753	256			70	39	1,778	532	2,310
No. 6, Fort McPherson, Ga	68	23	52	43	67	184			1,555	887	277	228	86	10	22	1	965	380	100	20	1,196	792			11	4	4,399	2,572	6,971
No. 7, Baltimore, Md					347	44																					347	44	391
No. 8, Otisville, N. Y																							890	230			890	230	1,120
No. 9, Lakewood, N. J					1				606	456	1				12	15	397	149	16		260	201					1,293	821	2,114
No. 10, Boston, Mass	13	1				8			265	65		1				1	157	52	6	18	278	106					719	252	971
No. 11, Cape May, N. J					882	334	72	16	28	23						9	22	1	279	224	43	23					1,326	630	1,956
No. 12, Biltmore, N. C									150	149											31	56					181	205	386
No. 13, Dansville, N. Y																													
No. 14, Fort Oglethorpe, Ga	2			1	92	24			611	118	20				1		58	11	1		542	147			2	1	1,329	302	1,631
No. 15, Corpus Christi, Tex									32	5							3				49	4					84	9	93
No. 16, New Haven, Conn																							400	51			400	51	451
No. 17, Markleton, Pa																							95	76			95	76	171
No. 18, Waynesville, N. C																							285	200			285	200	485
No. 19, Oteen, N. C																							778	519			778	519	1,297
No. 20, Whipple Barracks, Ariz																							64	15			64	15	79
No. 21, Denver, Colo																							759	103			759	103	862
No. 22, Philadelphia, Pa									216	13							21				262	9			1		503	22	525
No. 23, Hot Springs, N. C									29								3				47						79		79
No. 24, Park View, Pa						1			412	81							129				500	162			1		1,042	244	1,286
No. 25, Fort Benjamin Harrison, Ind	1		32	8	1				703	17	152	209	38	8	3		37				498	100			3		1,468	342	1,810
No. 26, Fort Des Moines, Iowa	116	45	20	2	10	4			476	272	112	6	29		7	7	551	82	98	174	374	176			4		1,797	768	2,565
No. 27, Fort Douglas, Utah						3			369	106					1	1	31	10	2		360	122					763	242	1,005
No. 28, Fort Sheridan, Ill	1		32	17	38	31	6		1,894	568	154	65	30		23	1	884	235	186	24	1,347	458			16	5	4,611	1,404	6,015
No. 29, Fort Snelling, Minn	96	6	9		18	9			663	230	17		8			16	273	31	25	3	826	402			1		1,936	697	2,633
No. 30, Plattsburg Barracks, N. Y			15	130	1				219	3	3		3		1,161	1,024	62		2		164	131				12	1,630	1,300	2,930
No. 31, Carlisle, Pa									698	61							147		4		812	97			8		1,669	158	1,827
No. 32, Chicago, Ill					2				443	7							124	9	1		356	12					926	28	954
No. 33, Fort Logan H. Roots, Ark	1								54	25							12	10			190	72					257	107	364
No. 34, East Norfolk, Mass											333	190															333	190	523
No. 35, West Baden, Ind						1			263	51							149	26			223	188					635	266	901
No. 36, Detroit, Mich				1	1	11			539	119							67	32			413	70			8		1,028	233	1,261
No. 37, Madison Barracks, N. Y									38		45						34				96						213		213
No. 38, East View, N. Y				2	5				765	55							205	2	2		746	5			2	1	1,725	65	1,790
No. 39, Long Beach, N. Y					9				176	12							129	10			156	38					470	60	530

No. 40, St. Louis, Mo					2				116	2							2				64	1			2		186	3	189
No. 41, Fox Hills, Staten Island, N. Y				1		8			902	235		1				3	127	15	150	6	723	208			1	3	1,903	480	2,383
No. 42, Spartanburg, S. C																							439	699			439	699	1,138
No. 43, Hampton, Va											393		48														441		441
Richmond, Va									60	182							35	1			22	12					117	195	312
BASE HOSPITALS.																													
Camp Beauregard, La									77	5							2				72	60			2		153	65	218
Camp Bowie, Tex					1	11			1,150	404	2						45	30			843	419			2	1	2,043	865	2,908
Camp Cody, N. Mex										1												2						3	3
Camp Custer, Mich						1			257	201	13				1		43	29			358	347			1	1	673	579	1,250
Camp Devens, Mass				2	2	15			1,626	657	10		1		4		125	109			1,364	667			13	2	3,145	1,452	4,597
Camp Dix, N. J					1	27			1,971	1,047	33				8		209	83			2,042	1,531			11	4	4,275	2,692	6,967
Camp Dodge, Iowa	4				1	13			1,961	548	14		3				334	86			1,508	672			10	2	3,835	1,321	5,156
Camp Fremont, Calif									148	83							46	60	2		226	273				1	422	417	839
Camp Gordon, Ga						16			1,091	474	2						23	14			556	227			2		1,674	731	2,405
Camp Grant, Ill						16			1,976	810	3		2				179	107	2		1,994	1,047			13		4,169	1,980	6,149
Camp Greene, N. C						3			97	26							8	6			163	41				1	268	77	345
Camp Hancock, Ga									21	2											7						28	2	30
Camp Jackson, S. C						8			884	70							15	2			596	38			4		1,499	118	1,617
Camp Kearny, Calif									487	65							16	4	1		395	89			5		904	158	1,062
Camp Lee, Va	1				3	11			793	356	6						49	69			907	387			3	7	1,762	830	2,592
Camp Lewis, Wash									604	15	2		1				41				582	15			1		1,231	30	1,261
Camp Logan, Tex									6	18											1	40					7	58	65
Camp MacArthur, Tex									1												8						9		9
Camp McClellan, Ala									25								1				28						54		54
Camp Meade, Md	2				2	22			774	375	2		1				225	205	2		922	830			5	1	1,935	1,433	3,368
Camp Pike, Ark						13			920	179	2						11	12	1		535	182			3	2	1,472	388	1,860
Fort Riley, Kans					2	17			1,320	495							76	46			1,221	636			11		2,630	1,194	3,824
Fort Sam Houston, Tex				24	4				463	98	42		24		13		131	6	7		377	101			3		1,088	205	1,293
Camp Sevier, S. C									2	1															1		3	1	4
Camp Shelby, Miss					1	11			809	85	1					1	10	6			466	61			4		1,291	164	1,455
Camp Sheridan, Ala						9			73	95							1	1			51	185			1	1	126	291	417
Camp Sherman, Ohio					3	31			1,654	661	16				1		71	61			1,642	892			11	1	3,398	1,646	5,044
Fort Sill, Okla									177	62			1				17	4			245	85			1		441	151	592
Camp Taylor, Ky	3					23			739	319	8		1			1	20	11			705	326			2	2	1,478	682	2,160
Camp Travis, Tex						5			102	128							14	16			140	102			1	1	257	252	509
Camp Upton, N. Y					7				1,431	390	47		4		11		108		4		1,868	482			9		3,489	872	4,361
Camp Wadsworth, S. C						2			35	83								1			24	80					59	166	225
Camp Wheeler, Ga									1	10											2	13					3	23	26
MISCELLANEOUS.																													
Post Hospital, Jefferson Barracks, Mo					1	3			337	43	9				1		36	3	1		311	33					696	82	778
St. Elizabeths Hospital, District of Columbia											61	11															61	11	72
Base Hospital, Fort Bliss, Tex									2																		2		2
Total	2,137	664	301	258	3,160	1,555	230	77	38,029	12,701	2,929	1,188	412	36	1,393	1,150	9,344	2,836	1,350	599	34,116	15,071	4,195	1,995	270	101	97,866	38,231	136,097

[a] From routine reports made by port surgeons to the Surgeon General.

NOTE.—In addition to the above, 190 cases were received at Boston, Mass., and were distributed as follows:

General Hospital No. 30, Plattsburg Barracks, N. Y., 1 neurosis.
Walter Reed General Hospital, Takoma Park, D. C., 15 amputations, 7 orthopedic, 1 surgical.
Letterman General Hospital, San Francisco, Calif., 2 orthopedic, 2 surgical.
General Hospital No. 1, Williamsbridge, N. Y., 4 medical, 1 surgical, 5 mental.
General Hospital No. 2, Fort McHenry, Md., 6 surgical.
General Hospital No. 3, Colonia, N. J., 15 amputations, 15 orthopedic, 1 medical, 9 surgical.
General Hospital No. 4, Fort Porter, N. Y., 18 mental.
General Hospital No. 6, Fort McPherson, Ga., 4 medical, 5 surgical, 6 orthopedic.
General Hospital No. 9, Lakewood, N. J., 12 medical, 7 surgical, 7 orthopedic.
General Hospital No. 11, Cape May, N. J., 4 head, 13 peripheral nerve.
General Hospital No. 18, Waynesville, N. C., 12 tuberculosis.
General Hospital No. 26, Fort Des Moines, Iowa, 2 medical, 9 surgical, 7 orthopedic.

Figure 74 shows not only the distribution to June 30, 1919, but that up to November 11, 1919—one year after the armistice. It exhibits, in a way impossible by any other method, the relative part played by the various hospitals in the care of these cases numerically.[14] It must be remembered, however, that not all cases admitted to a hospital completed their convalescence there.

REFERENCES.

(1) Memo. from the Surgeon General to the Chief of Staff, April 2, 1918. Subject: Hospitalization in the United States. On file, Record Room, S. G. O., 632 (General).

(2) Cablegram No. 1908 from General Pershing, November 19, 1918. Subject: Estimate of average number of sick and wounded evacuations to be made to United States. On file Record Room, S. G. O. (Cablegram File.)

(3) Table showing number of patients arriving from overseas. On file, Record Room, S. G. O., 721.6–2 (Sick and Wounded Reports).

(4) Letter from The Adjutant General to the Surgeon General, Nov. 26, 1918. Subject: Return of wounded. On file, Record Room, S. G. O., 323.9 (Ports of Debarkation).

(5) Annual Report of the Surgeon General, U, S. Army, 1919, Vol. II, 1164–1167.

(6) Memo. from Lieut. Col. Edgar King, M. C., to the Surgeon General, April 15, 1918. Subject: Evacuation of patients. On file, Record Room, S. G. O., 721.6 (Sick and Wounded, A. E. F.) Y.

(7) Letter from the Surgeon General to The Adjutant General, November 21, 1918. Subject: Transfer of patients. On file, Record Room, S. G. O., 721.6 (Patients from Overseas).

(8) Shown on strength cards. On file, Statistical Division, S. G. O.

(9) Letter from the Surgeon General to The Adjutant General, November 21, 1918. Subject: Transfer of overseas patients to base hospitals. On file, Record Room, S. G. O., 721.6 (Sick and Wounded, Overseas).

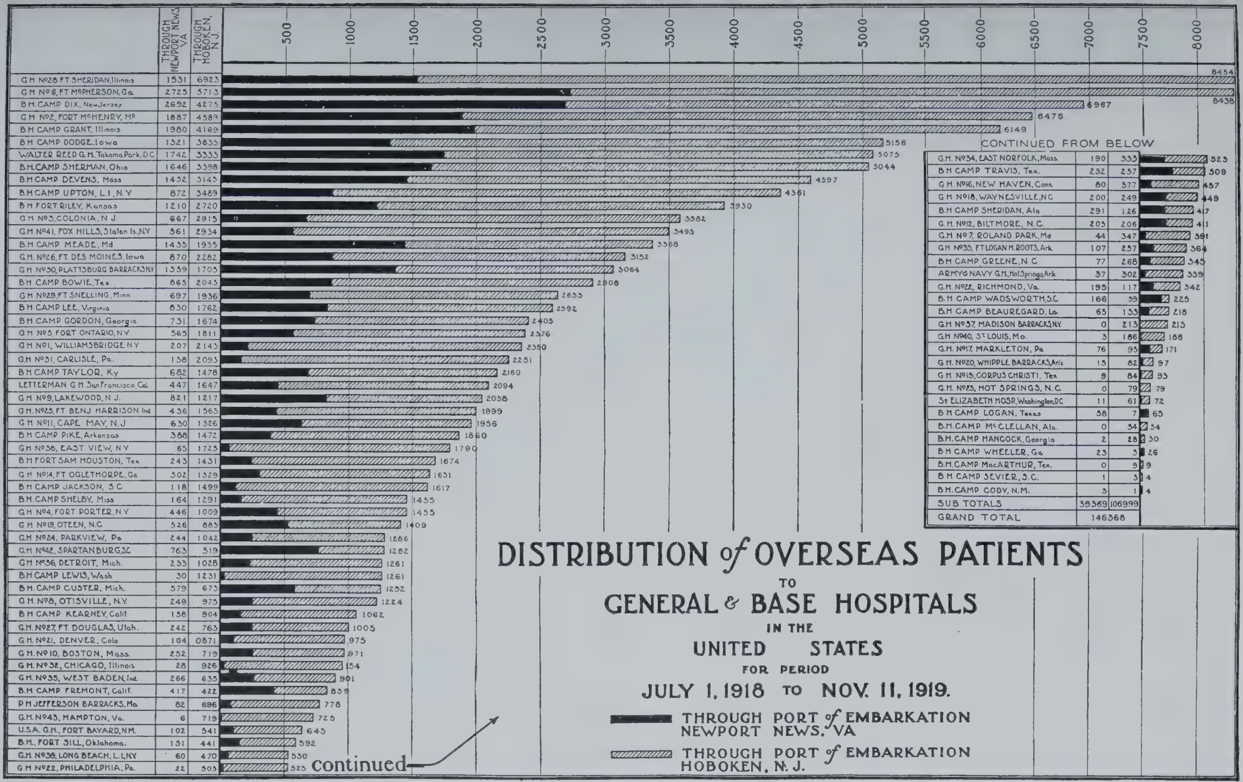
(10) Letter from the Surgeon General to surgeon, port of embarkation, Newport News, Va., February 24, 1919. Subject: Assignment of overseas cases to interior hospitals. On file, Record Room, S. G. O., 721.6–2 (Sick and Wounded Reports).

(11) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1159.

(12) Based on compilation of weekly reports of patients returning from overseas. On file, Hospital Division, S. G. O.

(13) Memo. from Lieut. Col. Floyd Kramer, M. C., to the Surgeon General, May 24, 1919. Subject: Conclusions arrived at in reference to hospitalization. On file, Record Room, S. G. O., 632 (General).

(14) Chart showing distribution of overseas sick to November 11, 1918. On file, Hospital Division, S. G. O.



DISTRIBUTION *of* OVERSEAS PATIENTS
TO
GENERAL & BASE HOSPITALS
IN THE
UNITED STATES
FOR PERIOD
JULY 1, 1918 TO NOV. 11, 1919.

■ THROUGH PORT *of* EMBARKATION NEWPORT NEWS, VA

▨ THROUGH PORT *of* EMBARKATION HOBOKEN, N. J.

	THROUGH NEWPORT NEWS, VA	THROUGH HOBOKEN, N.J.	
G H Nº28 FT SHERIDAN, Illinois	1531	6923	8454
G H Nº6, FT McPHERSON, Ga.	2725	5713	8438
B H. CAMP DIX, New Jersey	2692	4275	6967
G H Nº2, FORT McHENRY, Md	1887	4589	6476
B H CAMP GRANT, Illinois	1980	4169	6149
B H CAMP DODGE, Iowa	1321	3835	5156
WALTER REED G. H. Takoma Park, D C	1742	3333	5075
B.H. CAMP SHERMAN, Ohio	1646	3398	5044
B.H CAMP DEVENS, Mass	1452	3145	4597
B.H CAMP UPTON, L.I., N.Y	872	3489	4361
B H FORT RILEY, Kansas	1210	2720	3930
G H Nº3, COLONIA, N J	667	2915	3582
G.H Nº41, FOX HILLS, Staten Is. NY	561	2934	3495
B.H CAMP MEADE, Md	1433	1935	3368
G.H. Nº26, FT. DES MOINES, Iowa	870	2282	3152
G H Nº30, PLATTSBURG BARRACKS NY	1359	1705	3064
B H CAMP BOWIE, Tex	865	2043	2908
G H Nº29, FT SNELLING, Minn	697	1936	2633
B H CAMP LEE, Virginia	830	1762	2592
B H CAMP GORDON, Georgia	731	1674	2405
G H Nº5, FORT ONTARIO, N Y	565	1811	2376
G H Nº1, WILLIAMSBRIDGE N Y	207	2143	2350
G.H Nº31, CARLISLE, Pa.	158	2093	2251
B H CAMP TAYLOR, Ky	682	1478	2160
LETTERMAN G H San Francisco, Cal	447	1647	2094
G H Nº9, LAKEWOOD, N J.	821	1217	2038
G H. Nº25, FT BENJ HARRISON Ind	436	1563	1999
G H Nº11, CAPE MAY, N. J	630	1326	1956
B H CAMP PIKE, Arkansas	388	1472	1860
G H Nº38, EAST VIEW, N Y	65	1725	1790
B H FORT SAM HOUSTON, Tex	243	1431	1674
G H Nº14, FT OGLETHORPE, Ga	302	1329	1631
B H CAMP JACKSON, S C	118	1499	1617
B.H. CAMP SHELBY, Miss	164	1291	1455
G.H Nº4, FORT PORTER, N Y	446	1009	1455
G H Nº19, OTEEN, N.C	526	883	1409
G.H Nº24, PARKVIEW, Pa	244	1042	1286
G.H Nº42, SPARTANBURG, S.C	763	519	1282
G H Nº36, DETROIT, Mich.	233	1028	1261
B.H CAMP LEWIS, Wash	30	1231	1261
B H. CAMP CUSTER, Mich.	579	673	1252
G H. Nº8, OTISVILLE, N.Y.	249	975	1224
B H CAMP KEARNEY, Calif	158	904	1062
G.H. Nº27, FT. DOUGLAS, Utah.	242	763	1005
G H. Nº21, DENVER, Colo	104	0871	975
G H. Nº10, BOSTON, Mass	252	719	971
G H. Nº32, CHICAGO, Illinois	28	926	954
G H. Nº35, WEST BADEN, Ind.	266	635	901
B.H CAMP FREMONT, Calif.	417	422	839
P H JEFFERSON BARRACKS, Mo	82	696	778
G.H. Nº43, HAMPTON, Va.	6	719	725
U.S.A. G.H., FORT BAYARD, N.M.	102	541	643
B.H., FORT SILL, Oklahoma.	151	441	592
G.H. Nº39, LONG BEACH, L.I., N.Y	60	470	530
G H Nº22, PHILADELPHIA, Pa.	22	503	525

CONTINUED FROM BELOW

G.H. Nº34, EAST NORFOLK, Mass.	190	333	523
B H CAMP TRAVIS, Tex.	252	257	509
G H. Nº16, NEW HAVEN, Conn.	80	377	457
G H Nº18, WAYNESVILLE, N C	200	249	449
B.H CAMP SHERIDAN, Ala	291	126	417
G. H. Nº12, BILTMORE, N.C.	205	206	411
G.H Nº7, ROLAND PARK, Md	44	347	391
G.H Nº33, FT LOGAN H. ROOTS, Ark.	107	257	364
B H CAMP GREENE, N C	77	268	345
ARMY & NAVY G.H., Hot Springs, Ark	37	302	339
G.H. Nº22, RICHMOND, Va.	195	117	342
B. H CAMP WADSWORTH, S.C	166	59	225
B.H CAMP BEAUREGARD, La	65	153	218
G.H Nº37, MADISON BARRACKS, N.Y.	0	213	213
G.H Nº40, St LOUIS, Mo.	3	186	188
G.H. Nº17, MARKLETON, Pa	76	95	171
G H. Nº20, WHIPPLE BARRACKS, Ariz	15	82	97
G H Nº15, CORPUS CHRISTI, Tex	9	84	93
G.H. Nº23, HOT SPRINGS, N. C.	0	79	79
St ELIZABETH HOSP, Washington, DC	11	61	72
B H CAMP LOGAN, Texas	58	7	65
B.H. CAMP McCLELLAN, Ala.	0	54	54
B.H. CAMP HANCOCK, Georgia	2	28	30
B H CAMP WHEELER, Ga	23	3	26
B.H. CAMP MacARTHUR, Tex.	0	9	9
B H CAMP SEVIER, S.C.	1	3	4
B H. CAMP CODY, N.M.	3	1	4
SUB TOTALS	39369	106999	
GRAND TOTAL	146368		

FIG. 74.

CHAPTER XII.

TRANSPORTATION OF SICK AND WOUNDED.

HOSPITAL TRAINS.

Shortly after the United States declared war it was recognized that it would be necessary for the Medical Department to provide some means of evacuating and distributing the sick and wounded from the ports to hospitals in the interior. There was only one hospital train in the possession of the Medical Department at this time.[1] This train consisted of ten cars, comprising one kitchen and personnel car, three 16-section patient cars, one operating car, one storage and baggage car, three bed cars, and one officers' car. These cars were all of wooden construction, except the kitchen car and the officers' car, which had steel underframes. They were remodeled from old Pullman cars, August, 1916, by the Pullman Co., for service on the Mexican border, and were leased by the Government on a per diem basis, with the understanding that they could be purchased.[1] The train had a capacity of 225 patients and accommodations for 31 personnel.[1] In October, 1917, the Surgeon General requested an appro-

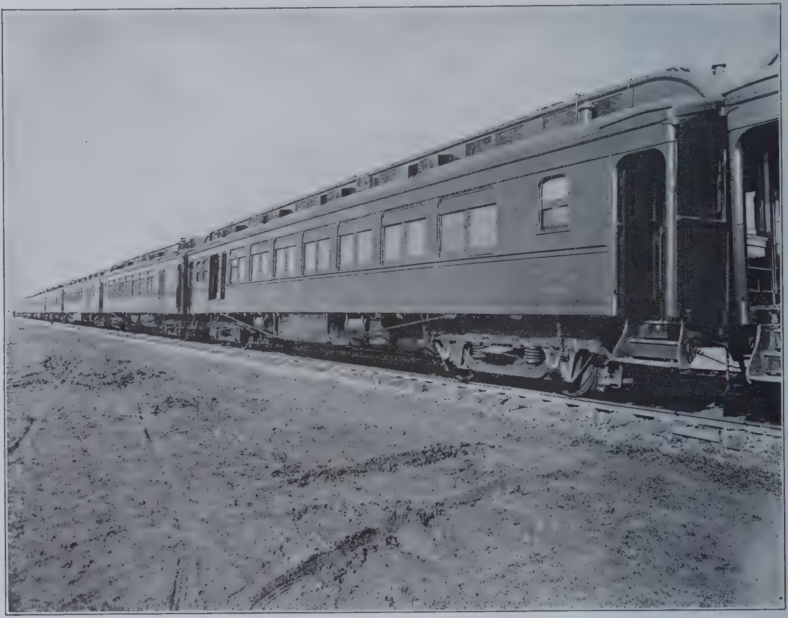


FIG. 75.—Hospital Train No. 1.

priation sufficient to construct three additional trains of six cars each.[1] On February 13, 1918, authority was obtained for the purchase of these additional 18 cars, and in June, 1918, the cars had been purchased, remodeled, and placed in service.[1] Three bed cars were taken from Train No. 1, thus reducing it to a 7-car train; and one bed car was added to each new train.

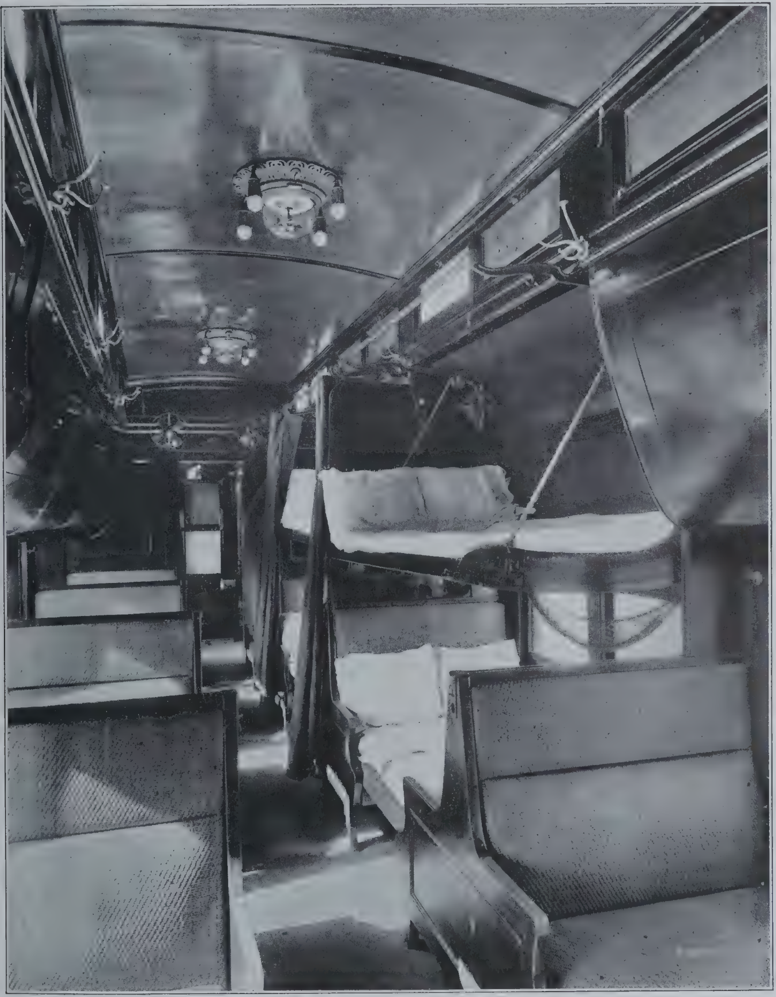


FIG. 76.—A 16-section patient-car, Train No. 1.

There were now 4 trains of 7 cars each, with a capacity of 141 patients and 31 personnel for each train. Pending the arrival of overseas patients at the ports, these trains were distributed as follows:[1] Train No. 1 to Port of Embarkation, Hoboken, N. J.; Train No. 2 to the Medical Officers' Training Camp, Fort Oglethorpe, Ga., for instruction purposes until October, 1918, when it was sent to the Port of Embarkation, Hoboken, N. J.; Train No. 3 to Fort Riley, Kans., for instruction purposes at the Medical Officers' Training Camp, at that place, and then to the Port of Embarkation at Hoboken, N. J.

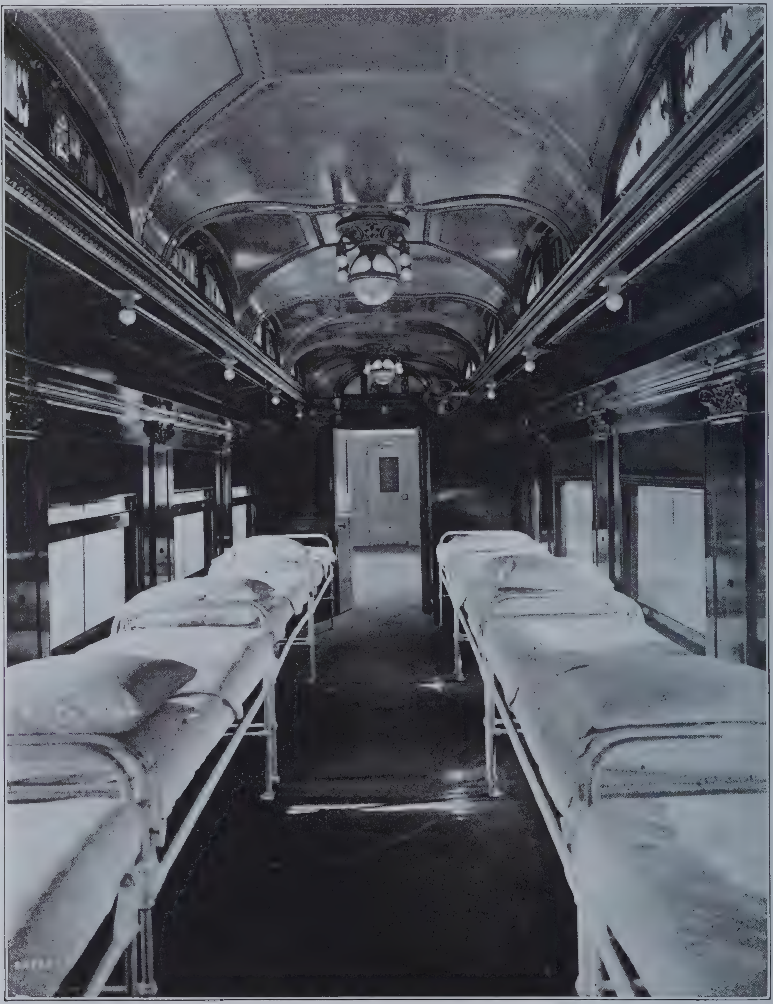


FIG. 77.—Car for sick officers, Train No. 1.

It was estimated in October, 1918, that the three hospital trains at Hoboken, with a patient carrying capacity of 423, could make a minimum of three round trips per month each from the port to interior points,[2] averaging a distance of 1,000 miles.

It was apparent that, even if increased in carrying capacity by the addition of three Pullman cars to each, these trains would be totally inadequate to distribute large numbers of sick and wounded. The most crying need was for cars with kitchen facilities, and after a careful study of the situation a request was made in October, 1918, for authority to purchase 20 cars and to have them remodeled into unit cars.[3] This authority was granted on October 25, 1918,[4] and the necessary arrangements were immediately instituted with the Pullman Car Co.

It was found that, owing to the increased cost of material and labor, the original estimate of $25,000 each for these cars no longer obtained, and that the cars would cost $27,000 each,[5] including remodeling. Nor could the Pullman Co. promise delivery of them under three or four months. It was discovered though that 20 steel underframe Pullman parlor cars were available and could be remodeled and be made ready for service within a very short time.[6] The offer of these cars was accepted and the order given the Pullman Co. to remodel them and the cars were all completed and in service on January 31, 1919.[2]

The remodeling of the cars, including removal of the interior fittings and the installation of Glennan adjustable bunks, large kitchens, refrigerators, axle devices and lighting systems, the cost of each added to the original cost, was $326,000 for the 20 cars.[7] Ten were sent to the Port of Embarkation at Hoboken and 10 to Newport News, Va.

In using these cars the plan adopted was to attach one of them to six or seven standard Pullman or tourists cars,[8] thus forming a hospital train of seven or eight cars. The patients from the entire train were subsisted from the kitchen in the unit car, and were cared for by the medical personnel assigned to that car. The plan was found to be very satisfactory in that it was practicable to furnish hot meals for 250 patients from each unit car.[8] There was room for sufficient personnel to care for all their needs and it was unnecessary to pay return mileage on the Pullman cars used as they were simply dropped at their destination [8] and the unit car alone returned to the port. This made possible a considerable saving over the use of a hospital train, in which case mileage had to be paid for the entire train.

The arrangement for the evacuation of the large number of patients from the ports and while awaiting the delivery of the unit cars, made it imperative that some cars be obtained for immediate use. Authority was therefore obtained to lease from the Railroad Administration 20 cars at $15 per diem.[9] In the latter part of November, 1918, 2 kitchen-tourist cars, 2 hotel cars with kitchens, and 6 private cars with kitchens were leased [10] and were sent to the Port of Embarkation at Hoboken. At the same time 7 kitchen-tourist cars, 1 hotel car with kitchen, and 2 private cars with kitchens were leased [10] and sent to the Port of Embarkation at Newport News. These leased cars were used in the same manner it had been planned to use the unit cars. The tourist kitchen and hotel cars were the usual tourist and standard sleeping cars, with added facilities for cooking at one end. Each had a feeding capacity of 250 patients.[10] The private cars, on the other hand, varied in interior design and had a considerably less feeding capacity. They were the best obtainable for the time being, however, and provided a reasonably satisfactory substitute. It was intended that these leased cars would be used only until delivery was made of the unit cars; but when the unit cars were obtained, it was found that the influx of patients was so great that it was necessary to retain the cars in service for a considerably longer period—until June, 1919—when they were returned to the Railroad Administration.[11] The use of the unit cars in conjunction with ordinary Pullmans demonstrated their efficiency in hospital train service. They were decidedly economical to operate and maintain and the initial cost per patient carried, or per car, or per train unit, was considerably less than would have been the case had complete hospital trains been provided.

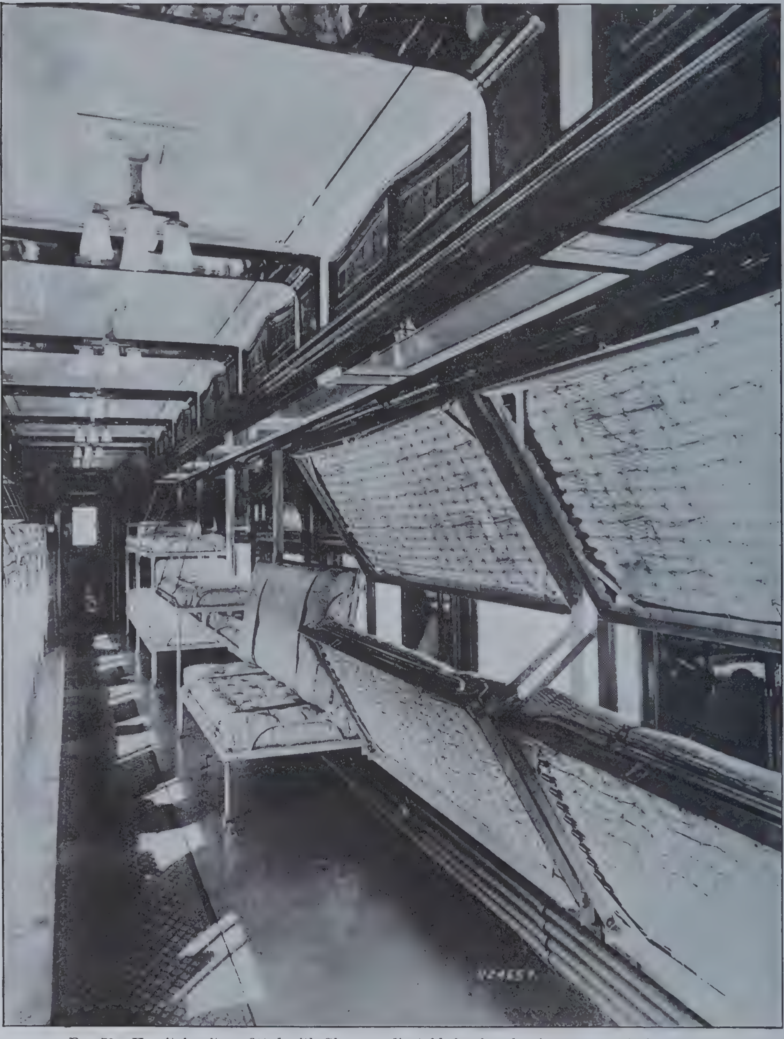


FIG. 78.—Hospital unit car fitted with Glennan adjustable bunks, showing manner of adjustment.

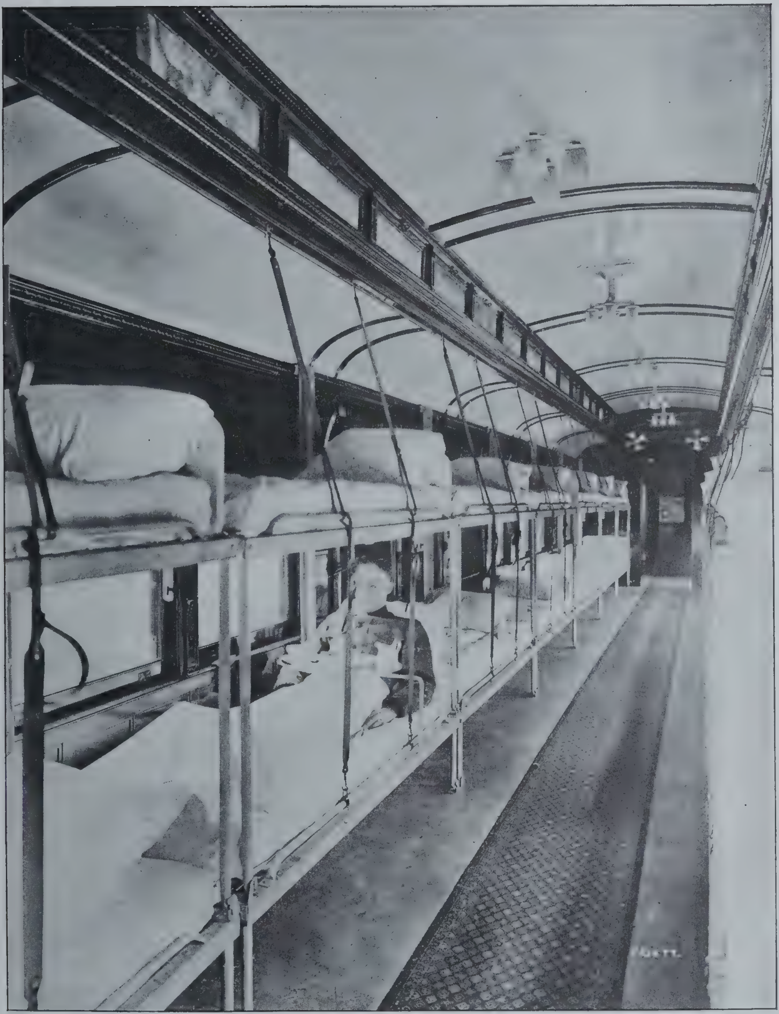


FIG. 79.—Hospital unit car interior.

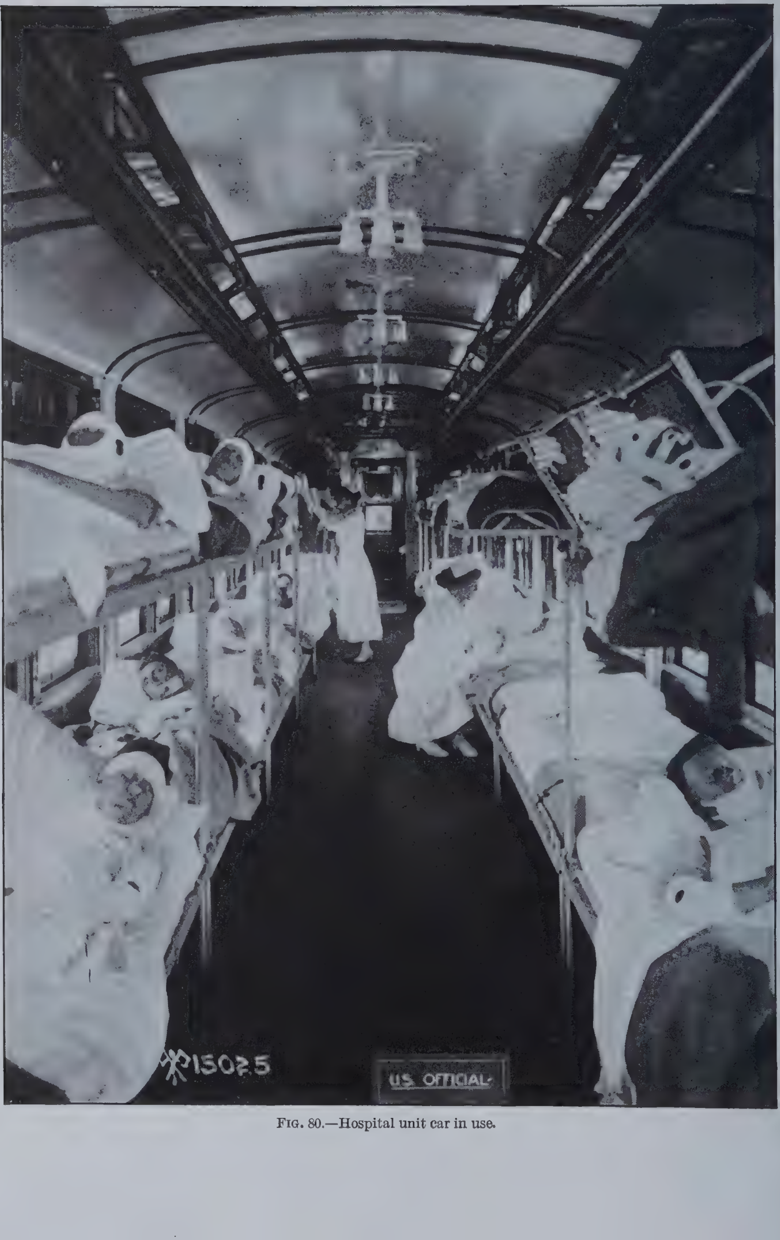


FIG. 80.—Hospital unit car in use.

HOSPITAL SHIPS.

At a very early stage of the war the problem of how best to return the sick and wounded to America arose. The Army had no hospital ships and the plan considered was the use of the Navy ship *Solace*, with its carrying capacity of returning 200 casualties a month; and the use later of two other Navy hospital ships, the *Mercy* and *Comfort*, with a carrying capacity of 300 each a month.[12] The estimate of a minimum of 5,000 returnable casualties per month showed these resources to be utterly inadequate, even had these three vessels not been required for their original and legitimate purpose of caring for the Navy sick. Out of this suggestion developed the arrangement by which the Navy transports would, on the westward passage, serve to the limit of capacity for the return of Army sick and wounded, and a schedule of each ship's carrying capacity was prepared and promulgated for the guidance of all concerned.[13]

The schedule given below shows the classified sick-carrying capacity of the great majority of transports in service on December 1, 1918. The figures fluctuated more or less with alterations in internal structural details, made for better ventilation or other sanitary considerations. In every case the number of different types that could be treated with gratifying results depended absolutely upon the type and general structure of the ship, which, in the main, was fixed and not susceptible to modification.[14]

TABLE 11.—*Revised table for rated capacity for troops invalided home September 5, 1918; on principal naval transports.*[14]

Name of ship.	Total bed-ridden in sick bunks.	Able to walk, requiring surgical dressings; in troop standees.	Mental cases.	Tuberculosis in isolation or on open decks.	Able to walk, requiring no attention in rooms for officers.	Convalescent, requiring no special attention; in troop standees.
Aeolus	24	100	10	30	145	2,580
Agamemnon	38	130	20	60	230	3,000
America	59	140	12	25	215	3,600
Antigone	40	110	5	25	100	1,660
Calamares	42	100	5	20	80	1,100
De Kalb	12	150	....	20	50	1,000
Finland	40	200	6	30	150	3,350
George Washington	60	500	8	50	500	4,600
Great Northern	40	400	45	38	116	2,200
Hancock	20	550	3	....	40	*a* 750
Harrisburg	38	200	5	25	100	2,200
Henderson	50	350	8	16	64	1,164
Huron	38	110	5	25	140	2,250
Konigen der Nederlanden	24	300	2	30	80	1,500
Kroonland	40	200	16	20	150	2,600
Leviathan	100	1,000	360	55	400	1,000
Lenape	20	100	....	10	44	1,000
Louisville	45	300	5	30	100	1,800
Madawaska	40	100	5	25	105	1,750
Mallory	20	100	....	10	40	1,200
Manchuria	38	300	22	40	175	2,850
Martha Washington	50	150	25	30	100	2,250
Matsonia	16	100	5	10	90	2,000
Maui	30	100	5	10	100	2,000
Mercury	44	110	20	25	120	2,300
Mongolia	33	300	5	25	170	2,850
Mount Vernon	40	130	25	25	140	1,800
Northern Pacific	44	510	45	90	120	1,700
Orizaba	40	500	....	25	190	2,000
Pastores	25	100	....	15	50	1,000
Plattsburg	38	200	10	45	100	2,000
Pocahontas	38	120	5	25	130	2,180
Powhatan	40	300	10	25–150	57	1,400
President Grant	55	110	5	25	200	4,400
Princess Matoika	35	150	5	16	150	3,000
Rijndam	50	1,000	10	40	155	1,800
Siboney	50	500	....	25	90	2,000
Sierra	30	200	5	25	100	1,300
Susquehanna	45	130	5	25	105	1,850
Tenadores	40	100	3	20	42	1,150
Von Steuben	....	*b* 200	....	60	103	*a* 650
Wilhelmina	20	100	5	10	100	1,500
Zelandia	27	500	5	30	76	1,100

a Hammock. *b* Cot.

Upon the signing of the armistice and with the initial movement of the return of our troops from abroad, steps were taken to utilize German ships [15] which had been unable to go to sea owing to the preponderance of allied naval power, and were still in German harbors. One of the first of this class was the *Imperator*, which was rapidly converted for transport purposes and, like the rest, was manned by a Navy crew. Other vessels of this type were the *Graf Waldersee, Cap Finisterre, Kaiserine Augusta Victoria, Mobile, Patricia, Philippines, Pretoria, Prince Frederick Wilhelm,* and *Zeppelin.*

The various types or classes utilized in the transporting of sick and wounded from abroad may be classified as follows:[16] (1) Navy transports, (2) cruisers and battleships, (3) merchant vessels of German register assigned to the service of the United States by the provisions of the armistice, (4) cargo vessels belonging to the United States Army Quartermaster Department, having complete Navy standard equipment for the Medical Department and manned and navigated by Navy hospital ships.

AMBULANCES.

The onus of transferring the majority of the patients from camps to their base hospitals was a duty of the motorized ambulance companies of the camp.

The average distance of the base hospitals from the population centers of camps was approximately one mile and a quarter.[17] To economize on time, efforts were made to transfer most patients on a prearranged schedule, that is, shortly after sick call. Emergency cases were provided for, however, and in this class was included the transfer of all patients suffering from, or suspected of having, a communicable disease.

REFERENCES.

(1) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1154.
(2) Ibid. 1155.
(3) Letter from the Acting Surgeon General to the Quartermaster General, October 17, 1918. Subject: Hospital cars. On file, Record Room, S. G. O., 531.4–1 (Hospital Trains and Cars).
(4) Memorandum from Director of Finance to Director of Purchase and Storage, October 25, 1918. Subject: Hospital cars. On file, Record Room, S. G. O., 531.4–1 (Hospital Trains and Cars).
(5) Letter from the Pullman Co., manufacturing department, office of the sales manager, Chicago, to the Surgeon General, December 3, 1918. Subject: Unit cars. On file, Historical Division, S. G. O.
(6) Letter from Mr. Edward Hanson to the Surgeon General, November 29, 1918. Subject: Construction of new hospital car. On file, Record Room, S. G. O., 531.4–1 (Hospital Trains and Cars).
(7) Letter from U. S. Railroad Administration to the Surgeon General, June 9, 1919. Subject: Statement of Pullman Car Co. On file, Record Room, S. G. O., 158 (Pullman Co., Chicago).
(8) Report Relative to Food Problems on Hospital Trains, by Maj. Don Joseph, M. C., July 10, 1919. On file, Record Room, S. G. O. (Food and Nutrition Files.)
(9) Letter from the Surgeon General to the Chief of Staff, Purchase, Storage and Traffic Division, November 20, 1918. Subject: Leasing of cars for movement of sick. On file, Record Room, S. G. O., 322.2–4 (Hospital Cars).
(10) Letter from the Pullman Co., to the Surgeon General, November 29, 1918. Subject: Leasing of Cars On file, Record Room, S. G. O., 322.2–4 (Hospital Cars).
(11) Letter from the Surgeon General to the Chief of Transportation Service, W. D., June 23, 1918. Subject: Leased cars. On file, Record Room, S. G. O., 531.4 (Port of Embarkation, Hoboken, N. J.), N.
(12) Annual Report of the Surgeon General, U. S. Navy, 1918, 69.
(13) Annual Report of the Surgeon General, U. S. Navy, 1919, 48.
(14) Ibid., 50.
(15) Ibid., 53.
(16) Annual Report of the Surgeon General, U. S. Navy, 1920, 19.
(17) Plans, National Army cantonments and National Guard camps. Construction Division, W. D., 1918.

CHAPTER XIII.

DEMOBILIZATION.

Immediately subsequent to the signing of the armistice, it was possible to consider a readjustment of the hospital program. Two principal factors influenced this readjustment—the number of sick and wounded in France, for which hospital beds in the United States would have to be reserved; and the rate of demobilization of the troops in the United States. Both factors were further influenced by subsidiary conditions; that is, the rate of return of patients from abroad and the changing number of available beds in the hospitals of the United States.

The rapid demobilization of reserve troops in the United States released thousands of beds in the cantonment hospitals and made it possible to designate hospitals, at the camps to be abandoned, for overseas patients. This permitted the first step in retrenchment—the practical abandonment of all procurement projects not yet begun or completed.[1]

All hospitals not designated for overseas patients were reduced in capacity and personnel at intervals during the demobilization period, as circumstances warranted.[1]

After the first few months of 1919, during which the greater number of sick and wounded from France was returned home,[2] and the pressure became less acute, the policy was adopted of abandoning as rapidly as possible all leased properties, and concentrating activities, so far as possible, in Government-owned property. By the end of May, 1919, most hospitals on leased properties had been discontinued.[3]

About the 1st of May the sending of overseas patients to the base hospitals at the camps was stopped.[1] This was done to permit the limitation of the activities of these hospitals to camp necessities, which was made possible by the fact that there was no longer a necessity for the conservation of space in general hospitals. Later, in June, the overseas sick at base hospitals in camps, requiring prolonged treatment, were transferred to general hospitals; so that by the end of June, the hospitals at camps were caring for practically only the sick of the camp commands.

There had been a coincident gradual reduction in the number of general hospitals. On May 24, 1919, the following hospitals were selected as being those possessing the greatest probable degree of permanence:[1]

Hospital.	Location.	Date abandoned.
Army and Navy General Hospital	Hot Springs, Ark	
Letterman General Hospital	San Francisco, Calif	
General Hospital No. 6	Fort McPherson, Ga	
General Hospital No. 19	Oteen, N. C	
General Hospital No. 26	Fort Des Moines, Iowa	Oct. 15, 1919
General Hospital No. 31	Carlisle, Pa	
Department Base Hospital	Fort Sam Houston, Tex	

Those which follow were selected as the next most permanent hospitals which would operate for a sufficient time after July 1, 1919, to care for the greater number of chronic cases remaining in hospitals:[1]

Hospital.	Location.	Date abandoned.
General Hospital	Fort Bayard, N. Mex.	
General Hospital No. 2	Fort McHenry, Baltimore, Md.	Oct. 15, 1919
General Hospital No. 3	Colonia, N. J.	Do.
General Hospital No. 8	Otisville, N. Y.	Nov. 15, 1919
General Hospital No. 20	Whipple Barracks, Ariz.	
General Hospital No. 28	Fort Sheridan, Ill.	
General Hospital No. 30	Plattsburg, N. Y.	Sept. 30, 1919
General Hospital No. 41	Fox Hills, Staten Island, N. Y.	
General Hospital No. 42	Spartanburg, S. C.	Oct. 10, 1919
General Hospital No. 43	Hampton, Va.	
Base Hospital	Fort Riley, Kans.	

While circumstances developed from time to time necessitating changes in the decisions in reference to the hospitals, as has been indicated by showing in the above tables the dates when the hospitals were abandoned prior to the end of 1919, in the main the plan was adhered to.

The most important considerations which influenced the abandonment or retention of hospitals were adequate care, economy of personnel, location in reference to population, and cost of maintenance.

In cooperation with the United States Public Health Service, which was charged with the care and treatment of discharged soldiers and sailors who became beneficiaries of the War Risk Insurance Bureau,[4] the War Department had turned over to the Public Health Service, by July 30, 1919, the following hospitals intact:[5]

Hospital.	Bed capacity.	Hospital.	Bed capacity.
Base Hospital, Camp Beauregard, La.	2,144	General Hospital No. 13, Dansville, N. Y.	288
Base Hospital, Camp Cody, Deming, N. Mex.	1,289	General Hospital No. 15, Corpus Christi, Tex.	262
Base Hospital, Camp Freemont, S. C.	1,156	General Hospital No. 24, Parkview, Pa.	700
Base Hospital, Camp Hancock, Ga.	1,604	General Hospital No. 34, East Norfolk, Mass.	350
Base Hospital, Camp Joseph E. Johnston, Fla.	816	General Hospital No. 40, St. Louis, Mo.	531
Base Hospital, Camp Logan, Tex.	1,156	Norwegian Deaconesses Hospital, Brooklyn, N. Y.	250
Base Hospital, Camp Sevier, S. C.	1,396		
General Hospital No. 10, Boston, Mass.	750	Total	13,222

A priority schedule for abandoning some hospitals and reducing beds in others was tentatively prepared on August 18, 1919, when there were 33,414 beds available in general hospitals.[6] At that time it was planned to hold permanently 3,750 beds in general hospitals as follows:

Hospital.	War capacity.	Reduction.	Designated permanent capacity.
Walter Reed General Hospital, Takoma Park, D. C.	2,000	500	1,500
Letterman General Hospital, San Francisco, Calif.	2,200	1,500	700
Army and Navy General Hospital, Hot Springs, Ark.	266	16	250
General Hospital No. 19, Oteen, N. C.	1,300	800	500
General Hospital No. 21, Denver, Colo.	1,603	803	800
Total	7,369	3,619	3,750

This reduction was gradually effected until by October 30, 1920, the number of available beds had been reduced to 3,750.[7]

REFERENCES.

(1) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1159.

(2) Annual Report of the Surgeon General, U. S. Navy, 1919, 48.

(3) Annual Report of the Surgeon General, U. S. Army, 1920, 259.

(4) Bull. No. 9, W. D., March 3, 1919.

(5) Annual Report of the Surgeon General, U. S. Army, 1919, Vol. II, 1160.

(6) Tentative priority schedule for abandonment and reduction in general hospitals. On file, Record Room, S. G. O., 323.72–3.

(7) Bed Report, October 29, 1920. On file, Record Room, S. G. O., 705.1 (Admission to Hospital), General.

SECTION IV.

TYPES OF HOSPITALS.

CHAPTER XIV.

BASE HOSPITALS AT CANTONMENTS AND CAMPS.

BASE HOSPITAL, CAMP GRANT, ILL.[a]

PHYSICAL CHARACTERISTICS.

Geographic location.—The hospital was located in the northeast corner of the military reservation of Camp Grant, Winnebago County, Ill., on the banks of Rock River, about 3 miles from the center of the city of Rockford.

Terrain.—The country surrounding the site of the hospital is gently rolling along the Rock River, into which it drains.

Soil.—The soil is a sandy loam containing deposits of gravel. Because of the character of the soil there was, in the immediate vicinity of the hospital, very little high-flying dust in dry weather; and what little there was was largely eliminated by means of grass grown on the neighboring unoccupied land. The soil became very muddy after rains, but the subsequent provision of cinder and board walks prevented the carrying of mud into the hospital corridors and wards by the personnel, patients, and visitors.

Roads.—The roads for transportation were three in number: One running northwest and southeast (the Kishwaukee Road); one running north and south; and one encircling the hospital. The Kishwaukee Road, extending to Rockford, was a well-built concrete road (about 20 feet wide); the road running north and south was of macadam; and that encircling the hospital was of cinders.

Climate.—Extremes of heat and cold were experienced. The mean temperature during the summer was 80° F.; in winter, 15°. During the summer, however, there was usually a pleasant breeze from the southeast blowing up the river.

Sanitary status.—The sanitary status of the neighborhood of the hospital was good. The Rock River, flowing along the western boundary of the hospital, is a very beautiful, rapidly running stream, shallow and not navigable, varying in breadth and containing wooded islands. Into this stream the entire sewage of the camp emptied.

STAGE OF DEVELOPMENT.

Organization.—The organization of the hospital may be divided into two periods, the first being that in which temporary quarters were occupied for hospital purposes; and the second, from the time when the base hospital officially assumed control of the buildings designed for its permanent occupancy. The organization was gradual and part of its history is intimately associated with the period prior to the time when the hospital was officially designated a base hospital, and before the mobilization of the divisional troops had occurred. The events of that early period will be given to complete the historical description of the hospital and to show the metamorphosis of the camp into the base hospital.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Grant, Ill.," by Lieut. Col. H. C. Michie, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

During the earliest construction period information was received at the camp that troops would be assigned to that place commencing about September 1, 1917. The contractors promised the camp surgeon that the base hospital would be in readiness for occupancy on August 26, 1917; but as the plans for it were not received from the War Department until about the middle of August, and in view of the fact that special building materials were required, none of which was yet on hand, a further delay was necessarily caused.

At this time there was a small number of troops in camp who had been provided as guards during the construction period. These troops required hospital facilities of some sort, and early in August the building contractors were requested by the camp surgeon to build an infirmary (regimental) building as soon as possible. To equip this building a 24-bed camp hospital was requisitioned by the camp surgeon, and on August 12, 1917, a small hospital of 24 beds was opened in Zone I of the camp. Nine patients were admitted at that time and were carried as "sick in quarters." There were no cooks for this newly organized hospital and in order to hurriedly provide this necessary personnel two promising enlisted men of the Medical Department detachment were assigned to one of the guard companies for one week to receive training in cooking.

The personnel of the Medical Department at that time included, in addition to the camp surgeon, two medical officers and five enlisted men.

When it became obvious to the camp surgeon, about the middle of August, that the base hospital would not be in readiness at the time mobilization was scheduled, a complete field hospital, with the exception of transportation, was requisitioned. This equipment was promptly received and, when put into use, augmented the bed capacity of the hospital to 240. An adjacent regimental infirmary, together with six recently finished barrack buildings, were temporarily taken over for use as hospital buildings. One of the two infirmary buildings was used as headquarters of the hospital, and contained, in addition, the medical supply room, dental office, and the genitourinary wards. The other infirmary building was used as a kitchen and contained, in addition, the officers' ward and operating room, surgical wards, and space for the special medical examiners who had been detailed to duty at the camp in connection with physical examination of the registrants of the draft.

Twenty-one additional Medical Department enlisted men were assigned to duty at the camp before the draft registrants had arrived. A course of instruction, which comprised nursing and operating-room technique, was begun in the hospital for them. For the operating room technique, mock operations were conducted.

By the end of August, 1917, there were 19 officers on duty at the camp hospital, in which there were 27 patients. The chief of the medical service, together with nine of his assistants, had reported in compliance with War Department orders.

No heat had as yet been installed in any of the buildings being used for hospital purposes, and, as at that time the weather was cold and wet, a request was forwarded to the War Department for authority to purchase 40 oil stoves. This was disapproved.

The first troops of the division arrived in camp September 5, and from then on the number of patients in hospital rapidly increased. The necessity for heat was demonstrated to the division commander, who immediately authorized the purchase of the required number of oil stoves.

All officers and enlisted men of the Medical Department, assigned to duty at Camp Grant during this period, were attached to the hospital for rations and quarters. This practice continued until October 14, 1917. It was quite difficult to satisfactorily care for them at first, principally because of the lack of cooks in the hospital detachment. This was gradually remedied, however, by assigning to the kitchen men who were seemingly most suitable and who were coached by qualified men from the camp school for bakers and cooks.

The construction work on the new base hospital was being rapidly pushed, and by October 14, 1917, it was ready for occupancy, with the exception of the section for head surgery in the administration building, the receiving ward, and the officers' quarters.

The camp hospital was discontinued on October 14, 1917. The patients which it contained, still requiring treatment, were moved to the new base hospital. The equipment for a 500-bed base hospital had, in the meantime, been received and had been properly distributed in the new hospital. The equipment which had been used in the camp hospital, being no longer required, was turned in to the camp medical supply depot.

Hospital provision for civilian employees engaged on the construction work of the camp buildings was made by the contractors. At first these contractors claimed that the Army should give care and treatment to all sick and injured civilian employees. The camp surgeon, however, informed them that this was not authorized, but that the injured employees' compensation act of September 7, 1916, required the contractors to provide hospital and medical attention for all personnel employed by them who became injured in their service. After several weeks the contractors accepted this view and completed one of the regimental infirmary buildings in which a hospital for emergency treatment was started. Cases requiring more than emergency treatment were sent to the Rockford City Hospital.

CONSTRUCTION FEATURES.

There was considerable delay in commencing the construction of the hospital because of the delayed receipt of the plans for it from the War Department and because of the slow delivery of building materials. The materials used in the construction of the hospital were different in many respects from those required for the buildings in the main part of the cantonment; and, as the constructing quartermaster was not in the possession of information regarding where these materials had been ordered by the Cantonment Division of the War Department, it was impossible to trace them. Actual construction, therefore, was not started until the latter part of August, 1917. Once begun, however, no time was wasted; and, within a period of a little more than a month, it might be said that the hospital, as it had been originally planned, was practically complete. The wards, with a capacity of 1,250, were ready for occupancy by the middle of October.

Experience in the use of the various buildings of the hospital demonstrated that the more closely the use of them was restricted to that purpose for which they were provided, the more excellent was their design. There were many features, however, in connection with the different buildings, which this experience showed should have been provided in some instances, and in instances where some features were provided these were used for other purposes.

Administration building.—In the administration building it was found that there was great need for toilet facilities for the various classes of personnel engaged in the performance of duty therein. These included officers, nurses, female employees, and enlisted men. There was, likewise, a constant demand for a utility room. In the sergeant major's office there was an inadequacy of space; so, one half of the contiguous porch was inclosed and made into a part of the room. The information bureau had a totally inadequate space allotted for the volume of business it carried on. The room intended for the registrar was never used as such, but was converted into an office for the chief nurse.

Receiving building.—The receiving building was not satisfactory; there was a considerable wastage of space; and it was impracticable to admit patients in the manner prescribed by the Surgeon General's Office; that is, to give each patient a bath, check his clothing, furnish him with hospital clothing and send him to a specified ward. There was but one bathroom in the receiving building; consequently, the contagious patients could not be mixed with other patients; moreover, the distance was too great from the major portion of the wards, and the corridors were too cold during the winter to risk sending patients through them immediately after the patients had been given a hot bath. The use of the observation rooms was found to be impracticable because of their inadequate capacity, and the lack of any provision for diets. As the south wing of the receiving building was used as the receiving office and the office of the detachment of patients, the available room in which to store patients' effects was sufficient for only 940 patients. The original arrangement for storing the effects of patients comprised a series of pigeonholes, 18 inches square. In these small spaces all the clothing had to be practically stuffed. This arrangement was changed by hospital labor so as to provide holes 18 by 18 by 9 inches, six in a vertical row along the upper half of the racks, the lower half being so arranged that the patients' overcoats, raincoats, blouses, and breeches could be suspended on clothes hangers. All underwear was laundered, and the outer clothing was pressed by a steam presser located in the clothing room. The officer of the day occupied the room constructed for him, and an adjacent room was used by the medical and surgical officers of the day. The noncommissioned officer in charge of male nurses occupied one room. A lavatory was divided into two rooms, making a unit lavatory. A small room adjacent to the receiving office was made into the receiving officer's office, by constructing a door between the two rooms.

Officers' ward.—The officers' ward was well constructed; but the capacity originally provided was found to be too small, and an additional wing was added in the spring of 1918. Officers suffering from contagious diseases were cared for in the isolation ward at this hospital. This would have been obviated had the additional wing been separated from the main portion of the officers' ward, and been provided a diet kitchen, which would have permitted it being operated as a contagious ward. The lack of an electric bell system was seriously felt, and one was provided by the personnel of the hospital. Inconvenience was likewise experienced because of the lack of clothes closets in the separate rooms of the ward.

Head house.—In the head house the dental department was very satisfactory. In the eye wing, and ear, nose and throat wing, a considerable amount of space was unused. Experience demonstrated that these activities could have been operated in a considerably more restricted building.

X-ray laboratory.—In the X-ray laboratory there was never sufficient space to carry on the necessary work, and the inadequacy became more apparent as a large number of plates and films accumulated for storage. The need of a toilet was repeatedly demonstrated, not only for the use of personnel, but for use by patients, particularly those who had been given bismuth meals.

The laboratory.—The laboratory as originally constructed was entirely too small, but in the spring of 1918 a satisfactory addition was made to it. No adequate storeroom having been provided, the short corridor running southeast was closed at the east end and this space was made into a very satisfactory storeroom. The animal house was located in the small space surrounded by the laboratory building and three corridors, was provided with a concrete floor, floor drains, and hot and cold water, and was heated by steam heat. The area surrounding the animal house was used as a yard for the animals. Since no chemical work was done at the hospital the hood and chemical laboratory were used as a place for the preparation of media. To facilitate the filtering of the media two small pipes were installed, fitted with funnels, and connected with the high pressure steam line. The arrangement operated most satisfactorily. To provide a water still of adequate capacity, an unserviceable hot water tank from a battery of sterilizers was connected with the high-pressure steam line and the cold water pipe. This improvised still had a capacity of 50 gallons a day. The gas plant, which was a part of the laboratory equipment, could never be made to operate, and proved to be a fiasco.

Surgical pavilion.—Except for an inadequacy of space the operating pavilion was satisfactory. To overcome the deficiency an addition was constructed, by the personnel of the hospital, north of the operating room and east of the corridor. This additional building was divided into three rooms—an office for the chief of the surgical service, an examining room with which it connected, and a room which was provided with a concrete floor and made into a gauze-reclaiming laundry. Immediately east of this division a pit was dug, lined with concrete and covered. An emergency boiler was placed there and connected with the high-pressure steam line. It so happened, however, that it was never necessary to use this emergency boiler.

Post exchange.—Structurally, the exchange met all the requirements of the hospital, and no necessity arose which required any alterations in it. There were some objections connected with it, however, which were principally due to its location. Because it had been centrally placed it was practically impossible to prevent patients from buying any and all forms of foodstuffs, regardless of the diets prescribed for them. It was practically impossible, also, to keep the adjacent corridors clean. These objectionable features would have been obviated had the exchange been located in a less accessible portion of the hospital group.

Mess and kitchen.—The capacity of the general mess proved to be always ample. There were some faulty features in the original construction, which, profiting by experience, could be readily eliminated. The original tables were poorly constructed in that their tops were made of 3-inch tongue-and-groove boards, securely nailed down. These boards shrank, leaving fairly wide cracks in which foodstuffs collected, making it pratically impossible to keep them clean, and it was necessary to cover them with oilcloth. The ceilings were too low for the size of the building; consequently, the rooms were dark; and because of the absence of sunlight, the floors dried very slowly after being mopped. This difficulty was increased when the two additional wings were constructed. Ventilation of this room was found to be difficult also. The main diet kitchen was very satisfactory, but it was improved by installing in it a large electric range. The equipment of the main kitchen was adequate and well selected. A charcoal oven for pies was purchased and installed, but unfortunately was not a success. A toilet and root cellar were installed in the spring of 1918, and these proved highly satisfactory. The potato parer, meat chopper, and bread cutter were very satisfactory as labor and time saving devices. The ice boxes and refrigerating plant were ample and satisfactory in every respect. The storeroom was insufficient at first, but with the construction of the new wing this shortage was eliminated. There was no original provision for the storage of bread, and a large bread cabinet was built by the personnel of the hospital in the room opposite the ice boxes. The runway northwest of the ice boxes, intended for the passage of food carts, was unused and proved to be waste space. It was found more satisfactory to have the food carts pass down the corridors and be served at the two large kitchen doors. To provide an office for the mess officer so that he could be constantly at the mess, and have sufficient space for his clerks and records, a room about 12 by 15 feet was built in the north corner of the kitchen, for which purpose a portion of the storeroom was taken. The space between the center and southwest wings was covered over and inclosed with wire screening. This was provided with a concrete floor in which there was a floor drain, and the space was used as a central garbage station. Approximately 40 garbage cans were assembled there, according to the class of garbage designated for them. One man was kept on duty to care for this station, at which garbage from all wards of the main part of the hospital, as well as from the general mess, was collected. Men from the wards brought the garbage, after each meal, in closed commodes. Entrance to the garbage station for these men was from the outside.

Guardhouse.—The guardhouse proved to have no value as such to the hospital, as all prisoners were taken care of by other organizations in camp.

Single wards.—The linen closet of the single ward being entirely too small for a place in which the head nurse could have an office, it was never used for that purpose. In the recovery room there was rarely necessity for the use of more than one bed. The diet kitchen was satisfactory except that no shelving was provided; and, as it was not possible to obtain this until after January, 1919, a kitchen cabinet for each ward was provided, in lieu of shelving. These cabinets were built to order in Rockford, Ill., to provide storage facilities for the standard ward kitchen equipment. This equipment was sent to the factory with instructions to build a cabinet adequate to contain it, and, in addition, 18 loaves of bread. These cabinets proved to be better than shelving and were provided at about an equivalent expense. Their cost was $19 each. In the ward utility room no shelving was originally provided and there was insufficient shelving constructed in the linen closet. As no provision had been made in the ward surgeon's room for papers, a set of pigeonholes was built by the Lane High School of Chicago for each ward. There were 60 pigeonholes in a set, each hole measuring 4 by 4 by 8 inches, which gave adequate space for each chart separately, and all the necessary blank forms. The toilets of the wards were satisfactory and met all requirements. The wards proper provided ample space for 34 patients, and the verandas, inclosed with movable screens, were large enough to accommodate all of the beds when necessary. When additional fire doors were built in each ward, an elevated runway had to be constructed from the floor of the ward up to the door, and then down to the floor of the veranda, because the return steam line passed along the floor. It was considered cheaper to build this runway than to change the return pipe line. This created a somewhat unsightly appearance in the ward and made it difficult to place the beds uniformly. Lighting, heating, and ventilation of the wards were very satisfactory. The wall electric sockets were used but very little.

Double wards.—The double wards were very satisfactory for all types of diseases, except contagious diseases, and were satisfactory with the latter class of cases when there was a sufficient number of them to fill both wards. These wards had a common toilet in which there was ample opportunity for the intermingling of patients from both wards, and it was necessary to quarantine both wards when a case of contagious disease developed in either. The one corridor connecting the two wards was used as a recreation room. This was very satisfactory as smoking was prohibited in the wards proper. No floor boards were constructed for the shower baths and the patients complained of having to stand on the cold concrete when taking their baths.

Isolation wards.—The isolation wards proved very satisfactory for miscellaneous types of contagion. The greatest drawback was in taking care of patients in the provided rooms when there were different types of infection, as there was but one toilet in that portion of the building. The isolation wards were used for mixed cases when there were but few cases suffering from infectious diseases. The wards of the main part of the hospital were used when groups of the same contagious disease were sufficiently large to warrant it.

Psychopathic ward.—The psychopathic ward was adequate to care for all nervous and mental diseases developing at this camp. This was made possible of accomplishment by causing a very rapid turnover of patients and not allowing persons to remain therein when they were not strictly hospital cases. The building was very satisfactory except that it was felt the windows should have been covered by iron bars on the outside, and heavy wire netting screens on the inside. This was done in only a portion of the building. No heavy wire screening was provided to cover the radiators to prevent insane patients from burning themselves, and steam supply pipes and return lines were within rooms rather than being above and beneath, respectively.

Ward barracks.—The two-story ward barracks did not prove very satisfactory. As constructed, they provided four wards with separate linen closets, toilets, ward surgeon's room, and ward master's room. They were distant from the main mess, connected by open corridors, and had no diet kitchen. They were not satisfactorily adaptable for bed patients, and to use them for convalescents created a waste of one-third their space.

Wards of 200 beds.—At the signing of the armistice there were under construction five wards of 200-bed capacity each. These were located in the most convenient places, four of them being connected with the main part of the hospital by closed corridors. The wards, upstairs and down, were complete and separate. There were ample quiet rooms, toilet facilities, diet kitchen, and administrative offices. Wards of 100 capacity each would have been of great value to this hospital during the influenza epidemic and when large numbers of overseas patients were received.

Officers' quarters.—There was always a shortage of quarters for officers at this hospital. It was frequently necessary to place two junior officers in a room intended for one, and even this expedient left the quarters inadequate. They were, however, very well built and were quite comfortable. The recreation room of the officers' quarters was satisfactory as such, but general assemblies were held in the chapel, where more space was available. The dining room, kitchen, and storeroom proved to be very satisfactory. The quarters provided for attendants in the west end of the south wing were never used for that purpose.

Nurses' quarters.—The first quarters constructed for the nurses were inadequate both in the number of rooms and in the size of the recreation room. The individual rooms were also too small and all were quite dark. The second set was an improvement on the first and the dining room was of sufficient capacity to care for the nurses from both sets of quarters. Rooms of this newer set were larger, the building was constructed in a better manner and the halls were much lighter. The third set of quarters was a decided improvement over the second type. There were four buildings in this set, and they were used as quarters for the student nurses. They provided 104 rooms, all of which were used for the students. The fourth set of quarters was the best constructed at Camp Grant. The rooms were very large and light, the buildings, two in number, were well ventilated and lighted. They were two story buildings with plaster sidings. In one of them there was provided a large dining room and well-equipped kitchen, which proved ample for all of the nurses. The dining room, formerly used for the nurses, was then made into a very attractive recreation room. The quarters provided for the help, in the latest set, were found to be inadequate. Two cooks and 16 maids were required to carry on the work of the nurses' quarters and mess. Because of the fact that this fourth set of quarters was not connected with the hot water system of the main portion of the hospital, a separate hot water heater was installed in one of the buildings. No shelving was provided in the original set of nurses' quarters. Tables with a drawer were furnished each room in the second set. Nothing was provided for the third set and an open wardrobe and built-in table were provided for the fourth set. None of these was quite satisfactory to the nurses, and a dresser with mirror was purchased for each room. In addition, a wall writing desk was built at the hospital shop for the rooms in the student nurses' quarters.

Colored nurses' quarters.—A separate building was built for the colored nurses who were on duty at this hospital. These quarters had a dining room, kitchen, and storeroom combined. They were excellent quarters and met all requirements.

Detachment quarters.—These buildings were constructed for barracks for the detachment, Medical Department. They had a capacity of 62 men for each dormitory, in which, in addition, there were four separate rooms for noncommissioned officers. A solarium was provided in the east end of each. These quarters were very comfortable, well lighted, heated and ventilated. No provision having been made for storing the enlisted men's clothing within the dormitories, a wall locker for each enlisted man was built by funds obtained from the post exchange. The total cost of these lockers was $1,140. They provided space for hanging the clothing, and there was a locked compartment at the top of each. A hasp and staple were placed on each locker and the soldier to whom it was assigned was provided a separate lock. The quarters of the enlisted men were primarily inadequate, and two additional sets of quarters were constructed in the spring of 1918. The outdoor toilets met all requirements. Additional quarters were authorized and construction was started on them in October, 1918. These buildings were of a more substantial type than those originally constructed and were of the same quality as the fourth set of nurses' quarters previously mentioned. Construction was stopped on these buildings when they were about 60 per cent completed.

The detachment mess.—The detachment mess was sufficient in size at first. In the spring of 1918, to accommodate the increased numbers, a short corridor was built connecting it with an adjacent building and both buildings were converted into a dining room. The kitchen was also enlarged and with these provisions it was possible to feed the entire detachment at one sitting. Prior to that time the surplus men were fed in the main hospital mess. A large detachment kitchen was constructed in September, 1918, and it provided excellent kitchen and storage facilities. The equipment for this kitchen was of the cafeteria type. The ice boxes were very large but proved to be poorly constructed and they required an unusually large amount of ice. The cafeteria plan of feeding the men was very satisfactory and was quite economical in the saving of labor. The completion of this new detachment mess was very much delayed because of the difficulty in procuring the new kind of kitchen equipment and it was not opened until about February, 1919. Following the reduction in the number of enlisted men on duty in the hospital this large detachment mess was closed in May, 1919, and its cafeteria equipment was removed and installed in the general hospital mess. The enlisted men and the ambulatory patients were subsisted by this cafeteria. Large black enamel waiters were purchased, by the post exchange of the hospital, in sufficient numbers to provide one for each person. There was difficulty at first in getting the ambulatory patients to use the cafeteria mess. A table was provided for those who were crippled, but great difficulty was encountered in restricting the use of it to the authorized. It was found that a great many patients secured canes and crutches to take with them to the mess, wholly as an excuse to sit at the table for the crippled and thus obviate the necessity of waiting upon themselves. In order to break up this objectionable custom, it was necessary to provide every table patient with a card from his ward surgeon. The cafeteria system proved excellent, generally, principally because of convenience of service and the saving of time. There was no evidence, however, that there was any great saving of food.

Garage.—This building was adequate for three ambulances only. It was well built, but had no floor drains to carry off wash water. There were no lockers for the storage of fatigue clothes of those on duty in the garage building, nor were there shelves for the necessary garage tools.

Utility shop.—This building was provided as a carpenter, plumbing, and steam fitters' shop and was of adequate capacity, but, as other like buildings, contained no shelving. An electrically driven saw with much detachable apparatus was purchased by the post exchange of the hospital, with which to construct lockers for the men of the detachment. This apparatus proved of the greatest value in maintaining the essential repairs in and about the hospital. Work done in this shop was performed almost exclusively by a force of men belonging to the Medical Department detachment of the hospital, thus making it almost independent of the utilities department.

Laundry.—This building was constructed and was provided with a drying room, 22 tubs, collar racks, and a steam disinfector. Other laundry equipment was not provided. The post exchange, however, purchased a complete set of laundry equipment and installed it in this building. It was necessary also to construct floor drains, as these were not originally provided. It happened that there was a laundryman in the Medical Department detachment to whom was given charge of the purchase and installation of the machinery. He afterwards trained the laundry force, which comprised 19 men. This force cared for all of the clothing of the detachment at a flat rate of $1.50 a month, and this included the cleaning and pressing of uniforms and overcoats. The men of the laundry detachment were given extra-duty pay at the rate of one-third of their salaries. The quality of the work they did was excellent and there were practically no complaints from the men. The laundry was able to reimburse the post exchange for the initial cost and declared dividends to the extent of approximately $5,000. The laundry also washed the face masks that were used in the hospital and frequently did emergency laundry work for the hospital, for which no charge was made.

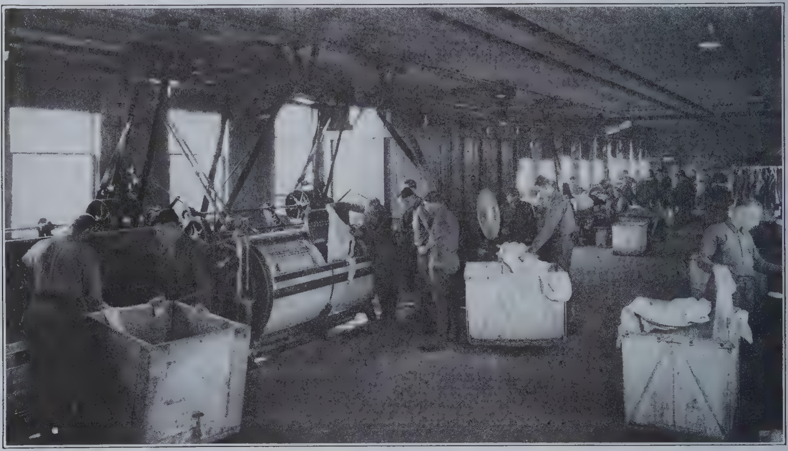

FIG. 81.—Laundry, Base Hospital, Camp Grant, Ill.

Mortuary.—This building proved very satisfactory so long as the number of deaths did not exceed four per diem. Because of the proximity of the hospital to Rockford, Ill., no embalming was ever done at the hospital. When autopsies were performed, the lack of running water over the post-mortem table was felt.

Chapel.—Except when deaths occurred in the detachment, the chapel was not used for funeral purposes; but the building proved very satisfactory and was used daily as a meeting place for officers, for courses of instruction. It was also used once a week for general meetings of the medical officers of the hospital and camp.

Power house.—The heating of the hospital was at all times adequate, and those troubles which occurred in the fall of 1917 and during the following winter were due to inefficient management. With the original construction there were a low-pressure system of steam heating, operated at approximately 10 pounds, and a high-pressure steam system for the steam tables, dish washers, and other kitchen equipment, as well as for the operating room and the laundry. The high-pressure system was kept at about 60 pounds. During the summer of 1918, a return system of condensed water was installed, and the pressure of the heating system was then maintained at about 30 pounds, reduction valves being installed at the entrance to every building. The hot water for the main portion of the hospital (as originally constructed) was heated in the power house and pumped to various parts of the hospital. For the first 12 months this was never very satisfactory; the water was never very hot and frequently it was cold. The hot water for the two-story ward barracks, the Red Cross Convalescent House, the three sets of nurses' quarters, and the colored nurses' quarters was heated by steam coils in the separate buildings. Prior to the summer of 1918, when there was no return system, the water of condensation was exhausted into the sewer. The steam coils which were used for heating the water proved to be very satisfactory, as the water was always as hot as could be desired.

Supply warehouse.—These buildings were well built, but proved to be insufficient in number when the hospital was operating at its maximum capacity. During the greater part of the time additional buildings of the hospital group were used for needed storage space. No shelving at all was provided these warehouses when they were constructed. It was therefore necessary to use scrap lumber and prepare temporary shelves upon which to place small articles until the necessary authority could be obtained from the War Department to provide suitable shelving.

The Red Cross Convalescent House.—The Red Cross Convalescent House was built and equipped by the American Red Cross. Heat, light, and water were furnished by the Government. This building proved to be very satisfactory as such, and met all reasonable requirements.

Corridors.—The corridors of the main portion of the hospital were all inclosed. Originally their floors were very rough and were made of short boards. As they were weak and constantly broke through, authority was obtained, in January, 1918, to lay a second flooring. This second flooring was placed on the original one, with its boards in the same longitudinal direction; consequently it did not strengthen it. Thereafter, it was not uncommon to see large holes throughout the corridors where the boards had broken through. The corridors connecting the two-story ward barracks and isolation wards were of the umbrella type and afforded no protection from the extreme cold in this section of the country. Large fire doors were constructed in the spring of 1918, to allow the crossing of motor-driven fire apparatus. In order to provide this passage, the level of the corridor floor was lowered to the ground. This necessitated the construction of two inclines, frequently as steep as 15 degrees. Because of this incline it was impossible to use hot water in the food carts of the wards, and in addition it was difficult to transport liquid foods in the carts. Wood strips, 3 feet long and 1 inch wide, were placed on these inclines half way across the corridor, to enable crutch patients to go up and down them. In spite of this provision, however, five patients slipped and fell on the inclines, causing a refracturing of arms or legs. There were several places where the lowering of the corridor floor was made to a level below that of the ground, giving rise during rainy weather to collections of pools of water.

Lighting and ventilation.—The lighting and ventilation of the hospital were very satisfactory. The ventilators for all of the buildings originally constructed consisted of a parallel set of openings, 12 inches wide, passing down the center of each building. These could be closed by drop doors hinged in the attic. A spring was attached to the doors to keep them open, and cast-iron catches were provided to fasten them when pulled down. These ventilators proved very unsatisfactory, as the planks warped and the catches could not work. The later type of ventilator, which was a large door situated at intervals and opened by a rope, was much more satisfactory. The roof ventilators in the original construction were objectionable because they permitted the entrance of rain and snow and became such a serious problem that it was necessary to cover them with burlap, in the winter of 1918. With the ventilators on the buildings subsequently constructed, there was never any trouble.

Fire-alarm system.—An aero fire-alarm system was installed in the spring of 1919, connecting all buildings used by the patients. This system proved to be very delicate and there were many false fire alarms.

PERSONNEL.

COMMISSIONED PERSONNEL.

Because of the shortage of medical officers of the Regular Army, only one Regular Medical Corps officer was assigned to this hospital during the period of the war, with the exception of four newly appointed first lieutenants in the latter part of the existence of the hospital. Every caliber of officer was represented among the medical officers assigned. With the exception of a very few, none of them had had any prior military experience.

During the fall of 1917 there was quite a large number of medical officers, who were totally unqualified to perform any duty whatsoever, assigned to duty. Some of these could not be absorbed and it was necessary to discharge them from the military service.

The rank held by a medical officer when he reported for service proved to be no guide to his professional attainments. Military rank was therefore not kept in the foreground at the hospital, and officers were assigned to fill positions in accordance with their ability and not necessarily because of their seniority in rank.

Drill and setting up exercises for officers were begun in September, 1917, and continued until the spring of 1919. In view of the fact that the age of officers at the hospital ranged from approximately 25 to 65 years, it was necessary to divide them into two or more companies. This was accomplished by placing the majors and officers of over 45 years of age in one company, and all others in one or more other companies, contingent upon the number of officers to be assigned. The older men were given drill and setting up exercises in moderation. The other companies were given one hour's drill, later including the foot drill of the soldier, tent drills, ambulance drill, and the litter drill. Parades and reviews were given from time to time at which were present the entire personnel, including the band. Great interest was evidenced by all in drills and other functions. The officers were required to turn out for retreat daily when in camp, but any officer could be excused from drill upon his request. There was a roll call at drill and retreat and if any officer absented himself therefrom without excuse he was required to make a formal explanation on a blank form provided for that purpose. This form was filed with the officer's efficiency report.

Each officer at the hospital had an efficiency record. This was made, by the chief of his service, on a form submitted weekly, and covered attention to duty, discipline and control of men, professional zeal, diagnostic ability, absences from formations, and anything else of a special nature.

The conduct of the officers and their esprit de corps were generally excellent. They took great interest in the organization and cooperated fully in the discharge of their duties, to the best of their ability.

The dental officers assigned to the hospital had their offices and quarters there. They were directly under the camp dental surgeon, however, and no active part in their control was assumed by the commanding officer of the hospital. The number assigned was adequate and their work very satisfactory.

The officers of the Sanitary Corps filled such positions as adjutant, mess officers, registrar, exchange officer, detachment commander, and recreation officer. These officers proved well qualified and of great help to the hospital.

The following procedure was adopted to properly familiarize new officers with their duties in connection with the hospital and the service in general: The adjutant gave each newly arriving officer a blank preference card to complete. This card contained the officer's name, rank, organization, age, name, and address of nearest relative, military service, professional training, and an expression of his desire for assignment to duty, first, second, and third choice. The officer was then presented to the commanding officer, who designated his assignment, following which the assistant commanding officer, assigned the new officer to quarters, arranged for his baggage, instructed him in the method of saluting, informed him as to meal hours, drill hours, classes, and other standing camp and hospital orders. He was then shown his pigeon holes where his orders and mail could be found and was instructed in the proper use of the officers' register. The preference card was given to the sergeant major, who added the officer's name to the roster and prepared special orders assigning the officer to duty. The assignment orders were distributed as follows: Officer's pigeonhole, drill director, chief of laboratory (for vaccinations), chief of medical service (for physical examination), mess officer, chief of the service to which the officer had been assigned, and a copy for file in the officer's file envelope.

When officers were relieved from duty at the hospital a special order was issued, copies being distributed as described in the preceding paragraph, and, in addition, to the property officer. The officer to be relieved was given a hospital check sheet, and was required to call at the following offices to receive therefrom clearance signatures before he was permitted to leave the hospital: Mess officer, laundry, exchange, property officer, and chief of service.

ENLISTED MEN.

There was a general shortage of enlisted men on duty at the hospital until the spring of 1918. One noncommissioned officer and 4 recruits were assigned to duty in June, 1917, and 25 additional men in August following. The latter group included a sergeant, first class, for whom a special request had been made as he was especially qualified to handle sick and wounded records. Sixty recruits were assigned by orders issued at division headquarters, 86th Division, about September 5, 1917. These men formed part of a group of 100 who had been transferred from Fort McDowell, Calif. About September 10, 1917, the first men of the draft were assigned. These men were generally of a very poor quality; five were discharged for physical disabilities and of the remainder only two ever rose to the grade of a noncommissioned officer.

In an effort to properly classify the enlisted men assigned, the following plan was adopted at the beginning of the hospital: Every enlisted man assigned was personally interviewed by the commanding officer, special attention being paid to the following points, and the information obtained in relation to them made of record: Education, grade; occupation in civil life; military experience; position desired in the hospital; age; a general estimate of physical condition on the basis of 10 representing perfect; general rating on a basis of 10; and tentative assignment. (This tentative assignment was the first assignment the soldier received in the hospital and was decided upon after obtaining the information called for by the preceding headings.) It required approximately one month to obtain this desired information, but it proved of the greatest value. As an example of the accuracy and value of such an interview, every soldier who was interviewed and given a rating of eight and one-half or more, ultimately became a noncommissioned officer; and there was not an example where the soldier who received seven or less became a noncommissioned officer. This list of ratings was of more value to the hospital than the soldier's official qualification card, and was frequently referred to when it was desired to select men for special positions.

The general shortage of enlisted men was especially felt in the general hospital mess, as it appeared almost impossible to obtain cooks. This shortage of cooks made it necessary to call upon the school of bakers and cooks for assistance. The school assumed practical charge of the mess until the latter part of January, 1918. Transfers from the organization proved a serious handicap to the hospital. For each officer and enlisted man in the camp there was a qualification card. These cards were classified at camp headquarters. Frequently these headquarters would receive an order to transfer a definite number of men of specific qualifications. The qualification cards would be referred to and men possessing the desired qualifications would be taken, regardless of the position they were holding at the time. Frequently men had become efficient in some specialty other than that given on their qualification cards, and would be removed from the detachment for the original qualifications. Thus, on one occasion, orders were received from camp headquarters transferring the mess officer to a grave digging regiment, the mess sergeant and three of the seven cooks to southern camps as automobile experts. The hospital mess was at that time about to become independent and efforts were made to retain the men, but ineffectually.

There were but five enlisted men assigned to the hospital who were a part of the Regular Army. One master hospital sergeant reported for duty in July, 1917, and proved of great value in assisting with the organization. He was commissioned and sent overseas early in 1918. One other enlisted man of the Regular Army happened to have a qualification in photography only and was of no value in any other capacity. One was transferred to the camp surgeon's office, and the other two remained with this organization but a short while. In other words, the base hospital at Camp Grant was practically organized without enlisted men from the Regular Army and was run for approximately nine-tenths of its duration without any enlisted men therefrom. As trained non-commissioned officers were unobtainable, primarily, the most promising material was selected and each department of the hospital given a desk in the office of the commanding officer wherein all work was carried on in its infancy under his supervision. By the time these offices had expanded to that extent requiring more personnel, some one of the men had been instructed, to whom charge of the office work was given, and the offices were established in their proper places.

About 50 per cent of the men assigned to the detachment were personally selected and transferred individually from camp organizations. Every effort was made to make their duty at the hospital as pleasant as possible, perhaps a little more so than with other organizations, with the result that there were a great many individual applications for transfer. Close attention was paid to the mess of the enlisted men, lockers were built in their quarters, a recreation room was provided and equipped for them, and dances, parties, athletics, and many other forms of amusement were provided. This all not only resulted in contentment but made it possible to select some of the best material in camp. Fortunately, both the commanding general of the camp and the division surgeon assumed the view that first-class work in the hospital could not be accomplished without there being well qualified men with which to do it.

Because of delays incident to the required repair work of the hospital, it was decided to acquire, for the detachment, men qualified as plumbers, steam fitters, electricians, and carpenters. It was possible to accomplish this and the hospital performed practically all of the repair work with its own organization. The men so selected were assigned to duty with the quartermaster of the hospital and worked under his supervision.

The standard maintained for the enlisted men of the hospital was that unless they were physically qualified to perform the duties of a soldier of the line they were not physically qualified for duty with the organization of the hospital. This resulted in there being very few substandard men in the detachment. In the spring of 1918 the Surgeon General requested a report showing the number of men physically qualified for overseas duty. Had the men reported as being qualified been transferred, it would have resulted in seriously handicapping the hospital.

Three hospitals were organized at Camp Grant for overseas duty. Of these, one was a base hospital and two were evacuation hospitals. A nucleus of men was transferred from the detachment of the hospital to each of the overseas hospitals, forming a very substantial foundation on which each of the new hospitals could build. The men were selected according to their classification and when grouped were able to carry on all of the administrative work for a small hospital. All enlisted men transferred to Camp Grant for duty with the overseas hospital were assigned to duty in the base hospital for instruction. Base Hospital 58 and Evacuation Hospitals 20 and 37 were trained in this way. Two hundred raw recruits from the South were all the men that Evacuation Hospital 20 had to start out with, but at the time this organization left camp its personnel gave the appearance of being of the best.

In building up the organization of the hospital the plan followed was to train each man to fill a specific position rather than have him attain a slight degree of familiarity with all branches of the hospital as a basis for promotion. Promotions were made by grade and no men from the hospital were allowed to skip a grade. Promotions were made on the first day of each month. The officer in charge of each department was directed to submit his recommendations for promotion after having consulted with his senior noncommissioned officer to obtain from him information for or against the proposed promotion. These promotion lists were consolidated and forwarded to the detachment commander for his recommendation. If vacancies existed they were filled by such men who had been properly recommended, after they had been given a perfunctory examination by the commanding officer of the hospital.

The following plan was utilized in the assignment of men to duty: The entire detachment was divided into 12 sections, each being in charge of a noncommissioned officer; and as many noncommissioned officers were assigned to assist the noncommissioned officer in charge as were found to be necessary. The detachment commander ultimately had general supervision over all the sections. However, as it was very difficult to get a satisfactory detachment commander during the first 14 months of the hospital's existence, orders were issued to the effect that no man would be transferred from one section to another without the approval of the commanding officer of the hospital, except in the case of transfers from the casual section which was used as a general replacement section. This provision was found necessary, also, because many of the new noncommissioned officers were not sufficiently trained in their positions and would, at times, make transfers that proved to be not to the best interests of the service of the hospital. The following sections were established in October, 1917, and were continued throughout the existence of the hospital: Clerical and administrative; male nurse; mess; transportation; Quartermaster; police; laboratory; operating; X-ray; exchange; casual; and miscellaneous.[a]

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[a] In reality this miscellaneous section was not a section in the true sense of the word, since it had no noncommissioned officer in charge of the men assigned, and the work performed by the men belonging to this section, generally speaking, pertained to some other of the sections. The stenographers and orderlies assigned to the officers of the various chiefs of service belonged to this miscellaneous section.

The sick officers proved to be hard to satisfy, and it was difficult to retain enlisted men in this part of the mess. Authority was requested to give enlisted men on duty in the officers' ward mess additional pay. This request was approved. The additional pay made it possible to retain enlisted men of this mess section in a satisfactory state of mind.

The nurses' mess was operated under the supervision of the mess officer in the beginning, and there were civilian cooks and waiters. The nurses complained of the poor quality of food, and difficulty was experienced in trying to keep the mess from getting in debt. In an effort to better the conditions, the chief nurse ultimately took over the operation of the nurses' mess and appointed one of the nurses to have active charge. One enlisted man for each 50 nurses was assigned from the detachment of the main mess. This plan worked very satisfactorily and remained in operation thereafter.

A separate mess was started in one of the isolation wards and was operated for the three isolation wards. At first this was thought to be very satisfactory and was so reported upon by several inspectors. As time went on, however, and all phases of the situation received consideration, there seemed to be no particular reason for operating this mess, which required additional personnel and proved very expensive. It was discontinued, therefore, and food was served by means of food carts, as was done to all of the other wards, and this arrangement was found to be very satisfactory. The separate mess had been considered with a view of keeping the patients and personnel of the isolation ward apart from the remainder of the personnel of the hospital. It was impossible, however, to keep the nurses, enlisted men, and officers separate and it was necessary for these persons to retain their quarters with the remaining portion of the personnel. In this connection, it may be of interest to know that there was not a case of exanthematous disease which developed in any officer, nurse, or enlisted man at the hospital who was associated with the care of that particular disease.

There were approximately 10 dietitians who had been assigned to the hospital. Each worked in quite a different manner. The first dietitian did practically all of the special cooking, personnally, being assisted by two kitchen police. Later she was relieved by two other dietitians, both of whom assumed a supervisory capacity, performing less actual work personally; and from that time on the major portion of the actual special cooking was done by the enlisted men, under the supervision of a dietitian.

ARMY NURSE CORPS.

The first female nurse reported for duty October 10, 1917. Prior to that time nursing had been carried on exclusively by enlisted men. Thereafter, female nurses were rapidly assigned, and during the existence of the base hospital there were in all 815 nurses on duty at one time or another. This number included both graduate and student nurses.

During the first six months of the life of the hospital, the type of graduate female nurse assigned was not of high professional quality, except those graduate nurses who already belonged to the Regular Army. The new nurses came from small hospitals, and small towns, and were advanced in years. As time progressed a much superior type of nurse came into the service, and for the first eight months of 1918 the nurses assigned to this hospital proved to be of the highest type obtainable; they were well trained, energetic, enthusiastic, and physically qualified to perform their duties.

The nurses, generally speaking, desired overseas service and several hundred were given their preliminary training and sent abroad. By the fall of 1918 it was evident that the supply of graduate nurses was approaching exhaustion in the United States, and the type of nurses then being assigned was more nearly similar to those who entered the service during the early period of the war.

It was customary, from the beginning, to place the nurses in an officer's status at Camp Grant, and, because of this, it was difficult at times to prohibit social relationship between the nurses and enlisted men. An order was issued prohibiting this, and every nurse was furnished a copy of the order when she was assigned to duty at the hospital. Any infringement upon this order resulted in disciplinary measures being taken; and if the nurse did not respond to an ordinary reprimand, her discharge from the service was recommended.

The question of recreation for the nurses was considered at a very early period. It was a difficult problem at the beginning because of the absence of a satisfactory place in the hospital for suitable entertainments. The city of Rockford could not be depended upon for the recreation for these young women, as any such recreational activities could not have adequate supervision. The medical officers' wives were ineffectually called upon to assist, it being explained to them that this was something they could do toward helping win the war. The nurses themselves gave every evidence of being unable to entertain each other. Teas, card parties, picnics, and other forms of entertainments, where only ladies were present, were tried, but generally speaking such entertainments were not successful. When the Red Cross Convalescent House was built in the spring of 1918, it was possible to have dances, and this form of recreation proved to be practically the only form of amusement that a majority of the nurses cared for.

Student nurses.—Student nurses were assigned to this hospital in groups, commencing in August, 1918, and in all approximately 150 were assigned for training. These girls were younger than the graduate nurses and were full of enthusiasm. The problem of absorbing them in a large hospital in a military camp where there were 50,000 men was considered with grave apprehension. It was concluded that one of the very best things to do was to teach these girls the meaning of military orders, to promote the honor system of regulations among them, and to make them feel that they were an important part of the hospital organization. With all this in view, they were organized into three provisional companies which were made into a battalion. They were given setting up exercises and the foot drill of the soldier. This drill was given by the commanding officer principally, and his close association with the student nurses made it possible for him to learn the individual characteristics of the young ladies and to so outline regulations, governing their military life at the hospital, as to make them meet the best interests of the students as well as the hospital. Student nurses were selected to act as commissioned and noncommissioned officers for each provisional company; and the organization as a whole was given squad, company, and battalion drill. They were given the various calisthenic exercises, signal drill; were taken on moderate marches; and were given may other types of instructions of the soldier.

The student nurses were drilled daily, except on Saturday and Sunday, regardless of weather conditions, until the spring of 1919, when the wards of the hospital became filled with overseas patients, and nursing requirements increased to such an extent that it was necessary to retain some of the students in the wards at all times.

The student nurses were furnished a winter uniform as follows: An olive drab shirt, olive drab breeches, puttee leggings, an olive drab overcoat, a khaki skirt, an overseas cap, a woolen helmet, woolen gloves, marching shoes, and overshoes. The Army uniform was used as far as possible; the gloves and overshoes were furnished by the Red Cross; the marching shoes by the Salvation Army. The student nurses took a great deal of interest in the drill, which considerably improved their carriage and facilitated disciplinary control. Special insignia was devised and furnished to designate the different "officers" of the organization.

The student nurses' battalion was required to turn out as a formation at retreat daily, except Saturday and Sunday.

The recreation for the student nurses was not much of a problem. They possessed a great deal of talent among them, and this was utilized in such a way as to entertain not only the students themselves but others of the hospital. They were, generally speaking, girls of a superior type and made all of the entertainment in which they participated very successful. The Red Cross Convalescent House was turned over to them on the first and third Fridays of each month and in it they gave such entertainments as their recreation committee had planned. Refreshments and music were furnished by the commanding officer, upon their request.

The student nurse, like the graduate nurse, was placed on the status of an officer.

PATIENTS.

During the existence of this base hospital 35,899 patients were admitted for treatment and 38,757 out-patients were examined and treated.

Two large epidemics were experienced. The first, commencing on December 26, 1917, followed the arrival of about 500 recruits from Columbus Barracks and Jefferson Barracks. These recruits had every form of contagious disease commonly seen in this section of the country. The epidemic continued until late in the spring of 1918. Measles appeared first, and, fortunately for the hospital, the apex of the occurrence of this disease had passed when the scarlet fever outbreak reached its height. There was but little meningitis. The second epidemic started the latter part of September, 1918, and ended in the following November. This was the influenza epidemic, in which it would seem that the pneumococcus played a more important rôle than the bacillus of influenza.

The largest number of medical cases was under treatment during the month of October, 1918, being of the so-called influenza type. The largest number of surgical patients was handled in March, 1919, representing practically all overseas wounded. The largest number of genitourinary cases was treated in July, 1918, just prior to the departure of the 86th Division. This number of genitourinary cases in camp was greatly augmented by the transfer of this class of patients from other camps, especially Camp Custer, Mich. The number of eye, ear, nose and throat patients was greatly increased upon the arrival of overseas patients in December, 1918, and the greatest number of such cases was handled during that month. This class of patients continued high throughout the spring of 1919. The number of mastoid operations increased following the influenza epidemic. The largest number of contagious cases developed during February, 1918, being incident to the first epidemic mentioned above. The largest number of nervous and mental cases was on record in July, 1918, which was due not only to the hospital cases, but to the fact that many cases were referred for observation from the camp during this month. The largest number of days lost per patient was in June, 1919, due to the high percentage of overseas convalescents in hospital at that time.

A classified report was maintained, showing, numerically, the various classes of patients, and the days lost by them. This classified report was of great value in bringing forcibly to the attention of chiefs of service and ward surgeons the importance of discharging patients from hospital just as soon as possible. Each month this report would be considered at an officers' meeting, when the services of the hospital would be compared one with another and from month to month. Quite a degree of competition between the services was thus brought about.

The establishment of the genitourinary infirmary at Camp Grant was of the greatest value to the hospital; it relieved the hospital of an immense amount of work and prevented the hospitalization of thousands of patients who did not require confinement to hospital. Approximately 2,000 patients passed through the genitourinary infirmary. These patients were on a special-duty status and were kept in quarantine. Such cases were transferred to hospital as needed treatment therein, and the remainder were cared for at the infirmary. The genitourinary services of the hospital and the infirmary were closely associated. This was made possible by assigning the assistant of the genitourinary service of the hospital as officer in charge of the infirmary.

GENERAL ADMINISTRATION.

PROPERTY.

Generally speaking, requisitions were handled very expeditiously and property received without very great delay. There were, of necessity, various grades of property. This was especially true of such articles as linen sheets and towels, of which there were all sizes and qualities received. The white enamel tables were insufficient in number and were very fragile. These tables were made of cast iron and the attachments for the legs were easily broken and could not be repaired. The wooden bedside tables did not prove satisfactory: they were 6 inches too low and provided but one shelf, they were easily overturned, and the varnish soon came off their tops, making them very unsightly. The lack of a suitable ward cart was very greatly felt, and every conceivable means, such as litters, wheel litters, wheel chairs, food carts, and baggage trucks, was utilized to convey supplies to wards.

In January, 1918, an interior storage battery truck, with trailer complete, was furnished this hospital by the American Red Cross. As the hospital was built without steps this truck could reach any building used by patients. Its capacity was a ton and it could carry any load that could be upheld by the corridors. It was used to collect soiled and to distribute clean linen; to bring supplies from the medical supply depot and other places. In fact, it was used almost continuously throughout the day for hauling supplies of all kinds from one part of the hospital to another. In this service it proved to be of the greatest help. It was run by storage batteries, for which a charging apparatus was furnished. This charging apparatus had an automatic cut-off and every other night the truck was attached to the charging dynamo. When the batteries were fully charged the dynamo was automatically cut off. This truck was operated for more than 18 months without necessitating any expenditures for repairs.

The hospital was embarrassed at times because of lack of funds to purchase articles needed immediately, such as rubber stamps, special office equipment, and emergency reports.

QUARTERMASTER DEPARTMENT OF THE HOSPITAL.

The first attempt at an organization of the quartermaster department of this hospital was made the latter part of September, 1917, when a portion of the permanent base hospital was taken over. At this time there was no allotment of Quartermaster Corps personnel, nor was there any evidence that such a corps allotment would be made. A rough draft of the requirements of the hospital was made and available personnel, possessing qualifications for that department, were transferred to the Medical Department and the organization of the Quartermaster detachment was then effected with Medical Department personnel. At that time all utilities were handled by the camp quartermaster; and as the personnel was limited and supplies were difficult to secure, a separate and distinct utilities department was organized in the quartermaster department of the base hospital. The medical supplies were being handled by the camp medical supply officer, who also served as property officer for the base hospital, though he was not directly under the supervision of its commanding officer. Considerable difficulty was experienced in determining the line to be drawn between such duties as should be performed by the camp medical supply officer and those by the quartermaster of the hospital. The work of actually equipping the wards was of necessity handled by the quartermaster, as he had the only available personnel, transporation, and organization with which to carry on this work. The question of accounting for Government property, under such a system, caused many delays and difficulties, and in most cases only the finest efforts at cooperation prevented serious delay in the functioning of the supply department.

THE SECURING AND ISSUING OF PROPERTY.

For several months after the organization of the hospital, property was issued to the various wards and departments upon memorandum receipt, signed by the ward surgeon or head of the department in question. This system was abandoned at an early date because of the constant change of personnel and because of the inability of the new officers to adequately supervise the care of property and to account for it. After many experiments it was found that the following system possessed the greatest degree of merit and the least objections: The hospital was divided into sections, each having a property officer. This officer was, generally speaking, a junior and one whose qualifications and temperament made him valuable for this type of work. On or before Wednesday of each week each ward or department submitted to the property officer of their section a requisition covering a week's supplies, both expendable and nonexpendable. These requisitions were examined and approved by the property officer of the section and were turned in by him to the office of the supply officer by Wednesday night. In the office of the supply officer the requisitions were examined and after being approved, for issue, one copy was forwarded to the warehouse, where the storekeeper placed the articles requisitioned by each ward or its department in a separate container. The property requisitioned was ready for use on Thursday morning. Meanwhile, the accounts section had placed all nonexpendable articles upon a shipping ticket and this shipping ticket had been turned over to the storekeeper for him to obtain the signature of receipt. When the ward master called for his supplies on Thursday he certified upon the issue ticket that he had received the nonexpendable articles listed thereon, and certified upon one copy of the requisition that he had received the expendable articles listed thereon. On Friday afternoon all issue tickets for the week were signed for by the property officer of each section. One copy of the shipping ticket was then filed in the numerical file of issue tickets; and the other copy, retained in the office of the supply officer, was filed in the folder of the particular ward to which the property was issued. This file was arranged so that a separate portion was reserved for each unit property officer, as well as a separate section for the issue tickets of each ward. Each unit property officer was provided a desk and file and was required to open and properly maintain loan record cards for each ward or building within his section. On Monday of each week these loan record cards were indexed by the loan adjusting clerk, to insure the proper posting of and keeping accounts up to date. Tuesday of each week was set apart for the turning in of unserviceable and surplus property, and receiving reports were properly accomplished on that day. All unserviceable property turned in was accompanied by a statement, made by the unit property officer, that the property was rendered unserviceable by fair wear and tear. In cases where such a certificate could not be furnished, the unit property office was required to submit a statement showing how the property became unserviceable. Once each month unserviceable property was placed upon an inspection and inventory report and turned in to the salvage department.

Medical property officers were required to check the property of their wards prior to the last day of the month and to submit a shortage and excess report upon a form devised by the supply officer. On this form, shortage and excess of property found in each ward or building were noted, and under the column for remarks a statement was made to show how such shortage or excess occurred. The loan-adjusting clerk then made a physical replacement of wards, as far as possible, by giving the excess of one ward or building to other wards or buildings wherein there were shortages. The net surplus remaining in any ward or building was then charged to the net shortage placed upon survey. In this way every effort was made to have each ward, on the

5th of the month, correct in its property accounts. Each ward was standardized with basic articles and each ward was allowed such additional articles as were necessary for the proper functioning of that ward in accordance with its type. Every effort was made to discourage the transfer of property by wards, and when a patient was transferred from ward to ward the physical replacement of property was required.

Emergency requisitions were allowed and were expedited, since during the major portion of the week there was no issue of general articles or supplies. After the above-described system had been working for a short time few emergency requisitions were necessary.

Property was drawn from the camp supply officer in two ways: Upon monthly requisitions covering the general articles of issue, the need of which could reasonably be anticipated; and upon emergency requisitions requiring either open-market purchases or further requisitions upon the zone supply officer. Considerable difficulty was experienced in securing the expedition of open-market purchases where these purchases were made by the camp supply officer. Trying as was the difficulty of securing prompt purchase by the camp supply officer, equally trying was the difficulty of securing payment of bills incurred, the payment for which was to be made by the Surgeon General's Office. Considerable difficulty was experienced in the proper accounting for supplies purchased under allotment to the commanding officer of the hospital, due to the fact that the hospital did not maintain stock record cards, but merely loan record cards. This matter was properly adjusted finally by obtaining special authority to open emergency stock record cards for the purpose of dropping expendable articles purchased.

All property issued to the base hospital by the camp supply officer was issued upon loan and, under regulations, was taken up on loan record cards. As the property accounts of a large Army hospital involved approximately 3,000 nonexpendable items and as the account was necessarily a very active one, the record card was found extremely difficult in use for property accounting, and it was also found that within a short time it was necessary to make over great portions of the loan cards to accommodate additional entries. Also, after the account had run a few months it was necessary even to use the adding machine in order to determine accurately the amount of property on hand.

TRANSPORTATION.

Prior to the establishment of the Motor Transport Corps but little difficulty was experienced in the proper handling and upkeep of the motor transportation of the base hospital. Upon the establishment of the Motor Transport Corps the quartermaster of the base hospital was given a definite allotment of motor transport personnel, and thereafter no difficulty was experienced in making this department properly function in accordance with the needs of the hospital. Subsequent orders pooling the transportation, except ambulances, under the Motor Transport Corps officer, and the taking over by that officer of all duties relative to repair and upkeep of motor transportation, interfered with the transportation service of the hospital. It was difficult to make the transportation requirements of this large hospital fit in with the arranged transportation scheme of the camp.

Animal transportation in the base hospital was secured in adequate amounts and little difficulty was experienced in the proper care and use of such transportation.

DISPOSAL OF WASTES.

Perhaps no single duty of the Quartermaster Department presented so much difficulty as the proper observance of sanitary regulations and the disposal of wastes. After trying for several months the system of having garbage cans at the end of each ward, the plan was abandoned as an impossibility, and a central garbage receiving station was built in the vicinity of the hospital general mess. The station was screened and its doors, opening upon the loading platform, were provided with springs. Within the station the galvanized-iron cans were placed in rows, each row of a sufficient number to receive definite classes of garbage or waste. A competent noncommissioned officer was in charge of the station to supervise its operation. Each ward or building was provided with the proper number of closed commode pails, suitably labeled, showing the type of waste or garbage to be placed in each pail. Each ward or department was required to convey its pails of garbage to the garbage-disposal station between the hours of 8 and 9 each morning, and 6 and 7 each evening. At the disposal station the garbage was inspected and placed in the proper can. The disposal cans were called for each morning between 9 and 12 and hauled to the camp garbage-disposal plant. This system operated successfully in almost every particular.

GROUNDS AND GARDENS.

Through the use of hospital and exchange funds, together with funds received from the Red Cross and other welfare organizations, seeds, plants, and farming machinery were purchased, and the entire hospital grounds seeded in grass and laid out in appropriate flower beds. It was found that, by first seeding the new ground with oats, followed by blue grass and clover, excellent grass could be secured the first year. Well-seeded lawns not only enhanced the beauty of the hospital and added to the contentment and satisfaction of the patients and personnel, but had a decided advantage in that they prevented the raising of dust.

The use of hospital funds permitted the operation of a hospital garden upon a neighboring 10-acre plot. This garden provided a large percentage of the fresh vegetables used in the mess and netted a clear profit in hospital funds through the saving of approximately $4,000.

DISINFECTING PLANT.

The operation of this plant had two purposes: The disinfecting of clothing of patients admitted to the hospital, of the bedding used by patients suffering from contagious diseases; and the disinfection of clothing and equippage of the personnel of the camp suspected as contacts in contagious disease. This plant operated for 22 months with practically no shutdown, either day or night, and only two one-thousandths of 1 per cent of the clothing and equipage handled was destroyed or rendered unserviceable.

LAUNDRY.

From the start difficulty was experienced in securing adequate service for handling the linen of the hospital, and this difficulty existed until the establishment of the camp laundry. The service rendered by the camp laundry in handling the linen of the hospital was satisfactory, except for the fact that it required considerable work in maintaining an adequate check of the hospital linen. This difficulty was finally overcome by placing at the camp laundry a noncommissioned officer of the hospital detachment who personally superintended the receiving and disposition of hospital laundry, and by the establishment of a separate section of the camp laundry for handling the hospital linen.

UTILITIES.

In 1918 the utilities of the camp were consolidated under the camp utilities department, and it was then clearly demonstrated that the hospital could not properly function by adhering to the general camp scheme for handling the utilities of the hospital. Due to the disinclination of the camp utilities officer to establish the zone system and place men of the utilities department on special duty at the base hospital, the general condition of the hospital buildings, equipment, and steam and plumbing lines became so bad that it was essential to make use of Medical Department men to look after needed repairs. The subsequent assignment of a new utilities officer at the camp enabled the quartermaster of the hospital to so arrange a scheme whereby the noncommissioned officers of his own department were placed in general charge of their respective sections, and the enlisted men or civilian employees from the camp utilities department were assigned to the quartermaster at the base hospital. In this way a subutilities department was organized for the hospital and all calls for repairs of an emergency character were telephoned to the utilities desk in the quartermaster's office, while the less urgent repairs and construction were requested by letter. Service orders were prepared and frequently reports, together with copies of service orders, showing labor and material expended, were forwarded to the camp utilities officer. With this arrangement the utilities service operated very satisfactorily with a minimum of delay and inconvenience to all concerned.

GAUZE RECLAMATION.

During the year 1917 information was received that there was a shortage of absorbent cotton and gauze, indicating the necessity for economy on the part of hospitals in the United States, so that overseas hospitals might be adequately supplied with these articles. A substitute for cotton was furnished, known as "cellu-cotton." This was tested out in every department of the hospital and was found of practical use in all departments except the laboratory and dental, eye, ear, nose, and throat sections. The fiber was so short that the material could not be made into satisfactory swabs or plugs. A gauze substitute was furnished, known as "re-knit" gauze. This was a cotton material made in different widths and lengths with a texture similar to stockinet. Its absorptive quality was about equal to that of gauze, and because of its coarsely woven character, it was possible to wash it many times.

An addition was constructed adjacent to the operating room where galvanized-iron cans were installed. Hot and cold water and suitable drains were provided. Covered pails were furnished each ward where gauze was used, and instructions were issued that the soiled gauze be immediately collected after removal from patients, placed within the pails, and covered with a solution of 1 per cent cresol. An attendant from the gauze-reclaiming laundry, as the addition to the operating room was called, collected the soiled gauze daily, soaked it 12 hours in one of the galvanized-iron cans, and then sterilized it by boiling. The gauze was then washed in an electric washing machine, with soap, soda, and bleach, rinsed in cold water, run through the wringer, and then dried.

By experience it was found that it was better to place the gauze on white enamel tables or on clotheslines for drying. After drying, it was packed in suitable packages, covered with muslin, and sterilized by fractional sterilization. Bandages were also cleaned in a similar way.

The result of this reclamation process reduced gauze consumption from 700 yards per day to an average of less than 10 yards of new gauze per month. The consumption of absorbent cotton was reduced to 5 pounds per month, and the issue of new bandages to about five dozen per month.

The gauze reclamation required labor and close supervision, but this was offset by the saving of material resulting from its use. The handling of these materials was under the supervision of the chief of surgical service. The building was constructed by soldier labor of the hospital on locally prepared designs, and it contained, in addition to an office, an examining room for the chief of the surgical service, reclaiming laundries, and an emergency sterilizer for the operating room. It was built for approximately $365.

It was possible to keep the gauze white, but great care was needed in bleaching it, otherwise the fiber was destroyed by the use of too strong a bleaching solution. It was very difficult to accurately keep track of individual pieces of re-knit gauze, but such efforts were made and it was possible to reclaim this re-knit gauze as frequently as 100 times. With the continuance of the reclaiming the various fabrics became roughened, with the result that more or less lint appeared on the surface. The gauze also became hardened with use, with consequent reduction of its absorptive qualities.

To offset the possible dangers incident to the re-use of pus-soaked gauze laboratory checks were frequently made and a great deal of attention was paid to it by the chief of the surgical service.

MILITARY SECTION.

In the early days of the existence of the hospital, when the only quarters available were barracks in the Infantry area of the camp, no attempt was made to accomplish anything other than the care of the sick. When, however, the permanent hospital buildings were ready for occupancy, and the hospital personnel increased in number, efforts were made to give the newly enlisted and newly commissioned personnel instruction in the Medical Department drill.

The medical officers of the hospital, with the exception of a few whose duties required their presence elsewhere at the specified hours, were required to report for drill one hour daily except Saturdays, Sundays, and holidays, and for retreat on the same days. In the beginning this drill consisted of foot drill, as outlined in the Drill Manual for Sanitary Troops, and was conducted by the commanding officer. The routine foot drill was varied from time to time by setting up exercises, litter drill, ambulance drill, visits to the camp trench areas, and short walks. Because of the fact that many of the medical officers were of mature years and unaccustomed to physical exercise a little time was required to accustom themselves to this drill. They soon began to enjoy it, however, and, with the exception of a very few, were of the opinion that the drill was not only beneficial as an exercise but a pleasant experience. As time progressed it was found that some of the older officers and a few with minor physical disabilities were unable to keep up with the drill as outlined, and the increasing number of medical officers also made it necessary to conduct the drill in several detachments. By this time officers had been assigned who had had previous experience in some military organizations, such as the National Guard, and a sufficient number of them were found qualified to conduct the drill, thereby relieving the commanding officer of this duty, except as to supervision. Three detachments were formed and were designated Companies A, B, and C. Each had a commanding officer and a first sergeant. Company A consisted of officers over 45 years of age and who had had sufficient instructions, either locally or elsewhere, to be qualified for more advanced instruction. Company C consisted of officers under 45 years of age but requiring elementary instruction in drill. This company was used as a casual company from which officers were placed in Company A after being instructed. Company B consisted of officers over 45 years of age or those holding the rank of major. This company was given light forms of exercise, consisting largely of early morning walks and light setting up exercises.

The drill of the graduate nurses was conducted under some degree of difficulty, by reason of the fact that no hour could be arranged when all graduate nurses could be spared from their duties, and because there was a necessary, constant changing of personnel.

With the arrival of the first detachment of student nurses drill was started immediately, under the personal direction of the commanding officer. This drill was given the student nurses merely because of its benefit to them for exercise outdoors. They became especially enthusiastic and in a remarkably short time became well qualified. They were organized into three companies, each company representing a group. Keen class rivalry developed, particularly after officers had been selected from them and these officers had become qualified to handle their companies independently. The great problem in connection with their drill was that of uniforms, and the manner in which this was solved has been mentioned in the section on student nurses.

Drill for the detachment Medical Department was conducted under the supervision of the detachment commander, and in the beginning was very unsatisfactory. Men on duty caring for the sick could not be spared, and as a result drill instruction was given only to a limited portion of the personnel. This was remedied by introducing a method whereby the entire personnel was divided into five groups, each of these groups being required to drill for two hours one day a week at 1 p. m., and then being allowed the remainder of the day off duty. In this manner it was possible to give drill instruction to all members of the personnel and at the same time to afford them some leisure hours. The result of this arrangement was very satisfactory.

From time to time reviews were held on the base hospital parade grounds, and were participated in by all of the above-named groups. The base hospital reviews were unique in the color combinations furnished by the graduate nurses with their white uniforms and blue capes thrown back over their shoulders to expose the red linings, and the blue uniforms with olive drab knitted sweaters worn by the student nurses. Parades were participated in by the detachment at various times, and upon one occasion each of the above-mentioned groups was represented in a public-health parade in the city of Rockford.

Military funerals were held at the base hospital chapel for some of the patients and those of the personnel who died while on duty.

WARD MANAGEMENT.

Every effort was made to have ward service attractive for the men, for it was soon found that good men could not be kept in the wards if their services were not appreciated by giving them promotion and responsibilities. General Orders, No. 5, Base Hospital, Camp Grant, Ill., dated November 12, 1917, specified the duties for the ward surgeon, the head nurse, and the ward master of each ward. This system was very satisfactory. In addition to having a ward master for night and day duty in each ward, a supervising ward master was appointed for each row of eight wards. The ward master was rated as nurse, while the supervising ward master was a noncommissioned officer. This supervising ward master was the property sergeant of his row. All supervising ward masters were under the noncommissioned officer in charge of male nurses, who had a day and night assistant, each of whom assumed general charge under his supervision.

The care of the ward property was most unsatisfactory in the early history of the hospital when the ward surgeon acted as the property officer for his ward. Several plans were tried and the most satisfactory evolved was to assign an officer as property officer for each row of wards and the supervising ward master as his property sergeant.

Patients were not allowed to have their clothing in the wards. There were two exceptions to this rule: Officers were allowed their clothing if they desired to retain it, and patients in convalescent wards dressed in their uniform. Prior to January 1, 1919, there were very few convalescent patients, consequently, there were very few patients who had their uniforms. Upon the arrival of overseas patients who had been allowed to have their uniforms in other hospitals the enforcement of the order became difficult. However, it was done. The number of convalescents increased and they were given separate barracks. There were times when it was necessary to give ward patients passes, on account of exceptional conditions arising at home. It was interpreted that if a patient was in physical condition to leave the hospital and go on pass or furlough, he had sufficiently convalesced to warrant transfer to the convalescence service, at least for a short time. A soldier under these conditions was transferred to a convalescent ward and given a pass. In other words no condition arose that necessitated a patient having his clothing in any wards except convalescent wards. This plan not only greatly improved the neatness of the ward, but it prevented patients being absent without leave. Prior to January 1, 1919, there were but three patients absent without leave from this hospital: One was insane and the other two were colored men who left the hospital during the night to escape operation. Upon the arrival of overseas patients and the establishment of a large convalescent service, it was not uncommon to have patients absent without leave when they had their uniforms in their possession. This practice, however, did not grow to alarming proportions and all cases were tried by court-martial and given appropriate sentences.

Patients' outer clothing was steam pressed in the hospital laundry and patients in the convalescent service were allowed to have their clothes pressed as frequently as they desired. This privilege was not abused.

Patients in convalescent wards were given pajamas, sheets, and, at first, hand and bath towels. Because of a great loss of them, the issue of towels to convalescent patients had to be discontinued.

The problem connected with patients smoking in the wards was one of more or less annoyance from the very beginning of the hospital. It was deemed advisable to prohibit smoking in the wards for three different reasons: Fire hazard, ventilation, and police. Smoking was prohibited in the wards during their entire existence. This became much more difficult upon the arrival of the overseas patients, and through the interference on the part of civilians, and others in more or less authority. Smoking was permitted in the bathrooms, on the verandas, and outdoors, as well as in private rooms. When it became necessary for a bed patient to smoke, his bed was taken out on the porch. Smoking was also prohibited in the mess hall, kitchen, corridors, and main assembly room of the Red Cross convalescent house.

DEATH AND SERIOUSLY ILL CARD INDEX.

When a telegram was sent informing the nearest relative of a patient of the fact of that patient's death, a card was made for the latter, giving the name, rank, organization, date of death, and name and address of the nearest relative. A file of these cards made possible a rapid and ready reference for all deaths.

Another index was kept for the "dangerously ill" telegrams, the cards being filed alphabetically, according to the towns in which the designated relatives lived. Each of these cards showed not only the town and State, but the name, rank, and organization of the soldier, name and address of the person to whom the remains were to be shipped, and the date on which shipment was made in the event of the death of the patient. This latter index was not found absolutely essential except when the number of telegrams became too large to be borne in mind for several days. From time to time there would be two patients with the same name, but living in different towns. Also telegrams would be received from relatives referring to patients as "brother," "son," etc., which made it practically impossible to locate the right soldier without a great amount of searching of the files. When such telegrams were received in response to telegrams sent out, the index mentioned was of great value.

FOLDERS FOR CLINICAL RECORDS.

One of the minor problems arising, from time to time, and one of the most difficult to solve, was the keeping of clinical records in such condition as to be suitable for permanent records of the Medical Department. The Shannon file, as prescribed, for keeping these charts, proved unsatisfactory, and various methods were tried in an effort to keep the charts in proper condition. The successful method finally attained is shown in Figure 82. The folders and metal clips were purchased by the American Red Cross upon request of the commanding officer.

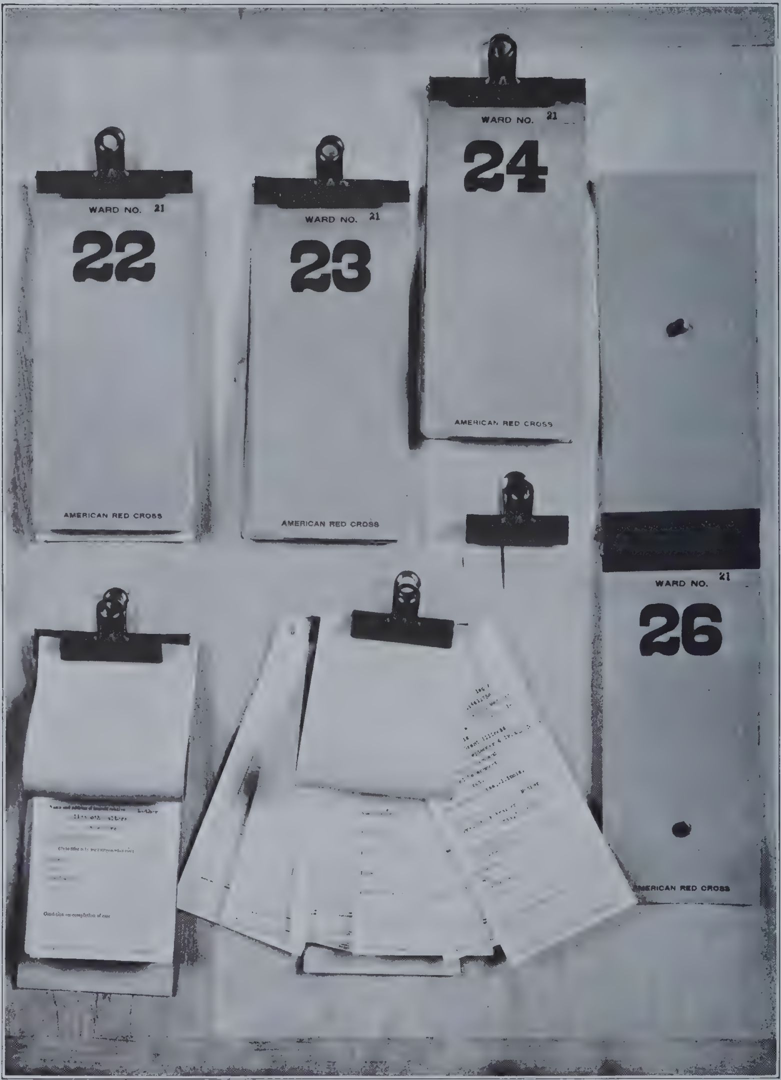


FIG. 82.—Folders for clinical records, Base Hospital, Camp Grant.

The greatest advantage of this method of keeping charts in the wards was that the charts remained clean and of good appearance; and the size of the clasps was sufficient to permit secure grasping of a chart of a considerable degree of thickness. These charts carried the ward number and the bed number, thus making them easy of identification. They were either hung upon the wall, or filed in pigeonholes. The folders consisted merely of a back and front cover of semistiff bristol board, hinged with cloth, over which was placed a spring steel clasp.

Each ward was supplied a set of folders and clips equal in number to the bed capacity of the ward.

BLANK FORMS.

For the purpose of facilitating the transaction of routine business within the hospital, approximately 50 blank forms were locally devised and reproduced by mimeograph. These were of greater or less importance and those only which proved most practical will be included in this history.

All officers on duty at the hospital, except those excused because of duties elsewhere, were required to attend all military formations. Roll was called at these formations and officers absent without proper authority immediately received a memorandum in the form shown below. When returned to the commanding officer by proper indorsement, this form was filed with the officer's record, and if the explanation was not satisfactory further steps were taken in in the matter.

[Form No. 13–BHCG.]

Headquarters, Base Hospital, Camp Grant,

Rockford, Ill.,..............................*1918.*

Memorandum:

To..

It is requested that you report to these headquarters, by indorsement hereon, your absence from..............................this date.

....
(Signature.)

1st Ind.:

....

The work of the mess officer was considerably facilitated by furnishing him daily reports from the main office of the hospital as indicated in Form 12. This form was made daily from the morning report and was sent to the mess officer as early as practicable. It furnished the mess officer a guide for his daily preparation of meals as well as a check against the diet cards submitted by each ward.

[Form No. 12–BHCG.]

(To the mess officers, Base Hospital.)

Daily Report of Rations at Base Hospital.

Date..............................

Base Hospital enlisted personnel..............................
Q. M. C. attached for rations..............................

Total rations due..............................
Female nurses..............................
Enlisted sick in hospital..............................
Officers sick in hospital..............................

....
Sergeant Major, Base Hospital.

Form No. 16 was a daily report prepared by the officer of the day and presented by him to the commanding officer on completion of a tour of duty. It was made in duplicate, one copy being retained in the administration files and one delivered to the new officer of the day, for any later necessary reference. It will be noted that space is provided for the signature of a "medical officer of the day" and "surgical officer of the day." It was found necessary during the busy periods of the hospital's existence to furnish some assistance to the officer of the day, in order that all parts of the hospital might have adequate attention at all times; accordingly, an officer was assigned from the medical service as medical officer of the day and one from the surgical service for similar duties. These officers were charged with the professional care of patients and with rendering necessary assistance to the officer of the day. Their tour of duty was from 7 p. m., at which time they reported to the officer of the day, until the ward surgeon came on duty at 8.30 a. m. In addition the surgical officer of the day was assigned to duty as emergency officer from 8.30 a. m. to 7 p. m. the day following his tour of duty.

With this report was submitted daily a list of seriously ill patients, in duplicate, one copy for the information bureau and one for the clerk in charge of "danger" telegrams. A list of patients whose status was that of "prisoners awaiting trial" was also furnished, with a report of the officer of the day, for the information of the commanding officer and summary court-martial.

[Form No. 16–GHCG.]

BASE HOSPITAL, CAMP GRANT, ROCKFORD, ILL.

DAILY REPORT OF OFFICER OF THE DAY.

.............................., 191...
(Date going off duty.)

Inspection of hospital made at (state hour) ....
Inspection of hospital mess made at (state meals) ....
Inspection of detachment mess made at (state meals) ....
Night guard reported at (inspected twice) ....
Detention ward (verified by personal count twice during tour):
Prisoners—
General.............................No...........
Garrison.............................No...........
Awaiting trial.............................No...........
Patients.............................No...........
Total in detention ward..............................
Duties of female nurses performed satisfactorily..............................
Duties of male nurses performed satisfactorily..............................
Patients in hospital—last report.............................No...........
Patients admitted.............................No...........
Patients discharged.............................No...........
Patients remaining in hospital.............................No...........
Civilians admitted:
(1) In Government service.............................No...........
(2) Not in Government service.............................No...........
Civilians in hospital (give ward and name under "Remarks")..................No...........
Civilians treated (out-patient). Separate special written report in each case.......No...........
Seriously ill patients in hospital (give name and ward number under "Remarks")..No...........

Deaths:

(1) .... (Name.) .... (Rank.) .... (Organization.)

(2) Effects in ward promptly checked and turned over to adjutant? ....

(3) Remains promptly removed to morgue? ....

(4) Officer of the day present when death occurred? ....

Emergency work? ....

Remarks ....

N. C. O. in charge of quarters ....

N. C. O. in charge receiving office ....

Night guard ....

....
(Medical officer of the day.)

....
(Surgical officer of the day.)

.... (New officer of the day.) .... (Old officer of the day.)

It was the practice at the hospital to permit relatives of patients seriously ill to remain for a limited period as guests in the rooms provided for that purpose in the convalescent house of the American Red Cross. Four days was established as the maximum period for such guests to remain and for the information of the commanding officer the report of guests was submitted daily in the following form:

DAILY REPORT OF THE RED CROSS HOUSE, BASE HOSPITAL, CAMP GRANT, ILL.

Guest.	Name of relative.	Date admitted.

Remarks ....

....
(N. C. O. in charge.)

The following form was devised for the use of chiefs of service; and upon it a monthly efficiency report was submitted, covering each officer on duty at the hospital.

Name ....

.... 1918.

Attention to duty ....

Discipline and control of men ....

Diagnosis ability ....

Professional zeal ....

Adaptability ....

Recommendations ....

.........................., M. R. C.,
Chief of Service.

FORMS USED FOR WARD REPORTS.

In compliance with paragraphs 446 and 456, Manual for the Medical Department, 1916, the diagnosis of all patients admitted to hospital was furnished the registrar on the forms shown below. These were reproduced by printing because of the large quantity required. The ward surgeon submitted these reports in duplicate, one copy being sent to the registrar and the other delivered to the chief of the service concerned, thus affording a double check upon inexperienced medical officers.

DIAGNOSIS CARD.

Submitted to the S. & W. office within 24 hours after admission. Make diagnosis agree with that of ward surgeon on page 55F. State always whether it is your original, a change, or an additional one. Indicate all operations and changes of status with dates. Diagnosis must comply with paragraphs 446, 445, and 456 MMD.

Reg. No. ....Date ....
Name ....
Rank ....
Organization ....
Line of duty (yes or no) ....
Ward No. ....Bed No. ....
...., *Ward Surgeon.*

One of the most important local forms was the "Request for transfer." This form was prepared and signed by the ward surgeon and sent to the chief of his service for approval. It was then sent to the chief of service destined to receive the patient, who designated the ward and gave approval for the transfer. The transfer having been accomplished, the request form was taken to the receiving office where it was recorded and signed, then to the information bureau where it was again recorded and signed. In this manner the wall ward-index in the receiving office was kept accurate and up to date, and the card file in the information bureau was adequately maintained. This procedure was of the greatest value in providing an accurate record at all times of the exact location of the patients within the hospital.

REQUEST TRANSFER OF—

Name ....
Rank ....
Company ....Regiment ....Request No. ....
From ward .... bed .... to ward .... bed ....
Diagnosis:

......................................,
Ward Surgeon.

Approved:

......................................,
Chief of Service.

Approved:

......................................,
Chief of Service.

....
(Receiving office.)

Date ...., 191..

....
(Information bureau.)

A request for consultation was made on the form shown, which was reproduced in a size to be readily filed with the chart. This request was initiated by the ward surgeon, approved by the chief of service, and sent to the chief of the service where the consultation was obtained. The consultant recorded his opinion and recommendations and signed the request for the chief of his service. The transfer request shown above was never approved unless consultation had been secured. By this means many unnecessary transfers were avoided and assurance was obtained that transfer when made was being made to the proper ward.

[Form No. 27a BHCG.]

REQUEST FOR CONSULTATION.

From ward surgeon, ward ....
To chief of .... service.
Subject: Request for consultation in the case of...
....
(Rank.) (Company.) (Organization.)
Bed No. .... of this ward.
Questions ....
....

...................................., *Ward Surgeon.*

Approved:

...................................., *Chief of Service.*

Date ...., 19..
Opinion of recommendations ....
....

File with brief 130.

...................................., *Chief of Service.*

The report on contagious diseases was required daily by the camp surgeon. The form shown is self-explanatory. In practice the ward surgeons were required to submit this form with their diagnosis cards, thus affording the registrar a check both against this report and against the diagnosis.

From wards where contagious diseases occurred only occasionally, this form was sent direct to the registrar. In the contagious-disease subsection of the service of internal medicine there was a noncommissioned officer in charge of records of contagious diseases. Each patient admitted with a contagious disease was identified by a 3 by 5 inch register card, on which appeared his name, rank, organization, initial diagnosis, date of admission, number of ward, white blood-cell count, and date of discharge. These cards were filed alphabetically by name; and were modified as to change of diagnosis, additional diagnosis, transfer, and discharge, thus maintaining an up-to-date record of all current cases as well as a dead file exhibiting all contagious diseases treated at the hospital. The form was prepared by a ward surgeon of contagious-disease wards; and was delivered daily to the officer in charge of contagious diseases, together with diagnosis cards; and in the office of that officer these reports were consolidated, the index file was brought up to date, and the correct report was delivered to the registrar.

[Form No. 31 BHCG.]

REPORT OF CONTAGIOUS DISEASES.

Instructions: This report is to be submitted to the registrar before noon daily for all contagious patients admitted to this ward the last 24 hours. Also for additional diagnosis if of a contagious nature. The case to be reported upon but once for any given disease. Front page of history (55a) furnishes all information except diagnosis. Report upon the following diseases: Pneumonia, influenza, measles, scarlet fever, mumps, meningitis, diphtheria, smallpox, chicken-pox, whooping cough, and typhoid fever.

Ward No. ....

Name.	Rank.	Organization.	Race.	Barracks number.	Diagnosis.

Upon the return of large numbers of officers from overseas, it was found that many of them were convalescent and their condition did not warrant handling them as ward patients. Therefore, quarters were provided these convalescent officers, at a considerable distance from the officers' ward and the convalescents quartered therein; and they were placed upon a status equivalent to that of an officer on duty, with nothing to do, however, but to report daily for treatment or examination. For the information of the commanding officer, the name, rank, and organization of each officer was reported daily on the form shown below.

DAILY REPORT OF OFFICERS IN OFFICERS' WARD ANNEX.

..............................191

Instructions: This report will be prepared daily and sent to the adjutant for the information of the commanding officer before noon. Only officers actually occupying rooms in the officers' ward annex will be included. (This will include those absent on leave less than 48 hours, but will not include those absent for a longer period.)

Room number.	Name.	Rank.	Organization.	Remarks.

....

(Name.) (Rank.)

Ward Master.

The large number of inexperienced medical officers on duty in the hospital soon resulted in a tendency for patients to remain in hospital longer than was necessary. In order to check this, all patients who had been in hospital for 30 days or more were reported to the commanding officer on the last day of each month, on the form shown. This method had a decided influence in preventing patients from becoming fixtures in hospitals.

[Form No. 6 BHCG.]

Monthly Ward Report.

(To be rendered by each ward on the last day of the month, giving by name, rank, and organization, every patient who has been in hospital 30 days or more. The date of admission to hospital as shown on the front sheet of the history, the diagnosis, degree of improvement and signature of the ward surgeon to be shown.)

Name, rank, and organization.	Date of admission.	Diagnosis and improvement.

....,
Ward Surgeon.

In the receiving office an envelope was used wherein to place a patient's money, trinkets, and other valuables. A copy of the receipt furnished the patient was filed in the envelope. This receipt was a copy of the patient's clothing card. The patient's name, rank, organization, and serial number were noted on the envelope. The receiving officer, at designated times, took the envelope and clothing cards to the registrar where they were checked. Special drawers were constructed in the registrar's office for the filing of these envelopes by register number. After the patient had received his valuables, his name, rank, etc., were erased and the envelope returned to the receiving officer, to be used again. This system worked very satisfactorily and required no revision.

DEMOBILIZATION FORMS.

With the beginning of demobilization it was found that many of the requirements could be met by the use of forms devised locally, particularly in the classification of applications for discharge and in the making of certain required certificates and affidavits.

At the time of the signing of the armistice, there were on duty at this hospital 947 enlisted men of the Medical Department, of whom all but one were drafted men, members of the enlisted Medical Reserve on active duty, or those who had enlisted for the period of the emergency. In general, the point of view assumed by these enlisted men was that the time of war ceased with the signing of the armistice. At this time the hospital had not fully recovered from the shock of the influenza epidemic, and the enlisted strength of the command was none too great for the necessary work remaining to be done. Demobilization instructions began to be received from the War Department, which, particularly Circular No. 77, War Department, 1918, with its various amendments, offered a means of release from the military service to men who submitted claims properly substantiated. These claims immediately began to appear. The requirement was then announced by the commanding officer that two affidavits from responsible parties, uninterested, must accompany each claim. A conscientious effort was made to place the proper recommendations on each application, for the information of the commanding general. Approximately 200 applications being received and forwarded, it became evident that some means of classification would be necessary in order to secure justice to worthy applicants for discharge and at the same time to maintain a sufficient personnel for the effective operation of the hospital. A classification of the entire enlisted detachment was made, determining and recording the relative merits of every claim for discharge. A form was devised entitled "Personal preference card," which was printed on blue stock. This card was filled out by the soldier and sworn to before a summary court officer. It was carefully explained to the men that their services were urgently needed and appeals were made to their patriotism and sense of duty to indicate as late a date for discharge as they possibly could. In a great majority of instances a fine spirit of cooperation was manifested. The blue cards, having been completed, were filed alphabetically by name. For each blue card a 3 by 5 inch index card was prepared, giving the soldier's name, rank, duty, and date of discharge requested by him. These cards were filed by dates, beginning with the earliest date when discharge was desired. Proceeding through the entire detachment as rapidly as possible, each soldier was interviewed by a board of officers who made an effort to determine the merits of each claim. The following classification was then adopted: Immediate discharge; dates definitely specified; dependency claims, class B; dependency claims, class C; industrial claims, class A; industrial claims, class B; industrial claims, class C; educational claims; and valid claims for discharge.

PERSONAL PREFERENCE CARD.

Name .... Rank .... Age ....

Department .... In ....

Which I am on duty .... Type of work ....

Length of service ....

What is the latest date to which you feel you could defer discharge ...., 1919

Have you any dependents? ...... If so, fill in space below, showing nature of such.

Name.	Relationship.	Amount contributed monthly before entering service.	Amount you feel you must contribute.	How much can you contribute now?
....	....	....	....	....
....	....	....	....	....
....	....	....	....	....
....	....	....	....	....

Are both your parents living? ...... Which are not? .... How many brothers? ......

Ages of brothers .... Have you a wife? .... How many children? ......

How much independent income has your wife? .... Is wife working? ....

Have you a position in sight? .... At what salary per month? $...... With whom? ....

.... How long will it be held open? ....

State below your reasons for requesting discharge at date stated above.

Names of people who will be able to verify above statements as to necessity for discharge:

Name.	Address.	Occupation.
....	....	....
....	....	....

Subscribed to and sworn before me this.......... I certify that the foregoing statements are true.

day of ...., 1919. Name ....

Summary court ....

STATUS OF CASE.

(Applicant will not write in this space.)

Recommendation of detachment commander:

Approved. Disapproved.

Date recommended for discharge:

................................., 1919.

Recommendation hospital board:

Approved. Disapproved.

Date recommended for discharge:

................................., 1919.

Recommendation of commanding officer:

Approved. Disapproved.

Date recommended for discharge:

................................., 1919.

Recommendation board of officers (par. 139, A. R., 1913):

Approved. Disapproved.

Date recommended for discharge:

................................., 1919.

Action of commanding general, Camp Grant.

Approved. Disapproved.

Date of discharge................., 1919.

Remarks:

DEATH RECORDS.

The following five sample forms were devised for use in keeping the death records.

Form No. 233 BHCG.]

U. S. Army Base Hospital, Camp Grant, Ill.

Case number ....
(Death check sheet, deaths in hospital only.)

..............................191..
(Date of death.)

1. ....
(Name.) (Rank.) (Organization.)

2. .... in line of duty (no, yes) death was or
(Diagnosis)
was not due to the soldier's own misconduct.

3. Seriously ill telegram sent? Yes? No?
Copy attached? Yes? No?

4. Death telegram sent? Yes? No?
Copy attached? Yes? No?

5. Were remains claimed? Yes? No?
If "Yes," by whom ....
(Name.)
....
(Address.)
If not, what disposition made...

6. Was report sent to commanding officer? Yes? No?
(Par. 162½ as amended.)

7. Was report sent to camp quartermaster? Yes? No?

8. Death certificate to undertaker? Yes? No?
(Copy attached? Yes? No?)

9. Was an autopsy held? Yes? No?
(Copy attached? Yes? No?)

10. Collection of effects .... from—
Adjutant.
Ward.
Clothing room.
Discharge office.
By whom receipted for ....

11. Report of inspection of remains by medical officer attached?

12. Report of undertaker attached?

13. Report of chaplain or religious services attached?

14. Was death due to natural causes? Yes? No?
If not, is report of board of officers attached? Yes? No?

15. Case closed .... 191..

16. No. of inclosures ....

Sgn ....
(Name.)
....

[Form No. 10 BHCG.]

Notification of Seriously Ill Patient in Hospital.

(This form to be filled in and immediately sent to the adjutant as soon as a patient becomes seriously ill; that is, if the patient is more apt to die than to recover. The ward surgeon will be held responsible for this report between the hours of 8 a. m. and 4 p. m. and the officer of the day between the hours of 4 p. m. and 8 a. m. Ward surgeons will notify the O. D. of the seriously ill patients in their wards before going off duty.)

Reg. No. .... Hour .... m. Date .... 1918.

....
(Surname.) (Christian name.) (Rank.) (Co.) (Organization.)

Name of nearest relative ....
Exact address ....
Clinical diagnosis ....
Name of messenger ....
...................M. R. C.

Received by the adjutant at ....
Relative notified at...................... By ....
Remarks ....
....
.............................., *Adjutant.*

Headquarters, U. S. Army Base Hospital, Camp Grant, Rockford, Ill

From: The commanding officer, base hospital.
To: The commanding officer.
Subject: Report of death of enlisted man.

1. The death of ....
is reported. Cause of death...

2. Death occurred at this hospital at ....
His remains are with ...., undertakers, Rockford, Illinois. Your attention is invited to paragraph 83½ A. R., C. A. R. 77, 1918, and the 112th A. W.

3. The designated relative has been notified by wire, rquesting disposition of remains.

4. You are requested to have your summary court officer call on the summary court officer, base hospital, to collect and receipt for the effects of this soldier.

5. In compliance with orders of the commanding general, 86th Division, May 6, 1918, the following is offered for your information and guidance: "A presentable uniform will be provided in each case. It is not believed that this calls for a new uniform in each case. If the soldier's uniform is in pretty good condition, it should be used in lieu of a new uniform, being properly pressed, if necessary. If the man's uniform is not in good condition, a new one should be secured, but by reason of the present large demand for uniforms, etc., care should be taken to conserve the supply in this manner as much as possible.

6. Instructions from the War Department, June 4, 1918, provide that—"The articles of uniform to be furnished deceased soldiers under the provision of paragraph 37, A. R., as amended by telegram (722.2 Misc. Div.) Office of The Adjutant General, March 9, 1918, shall consist of the following: One cotton or woolen, O. D.; one pair breeches, cotton or woolen, O. D.; one pair drawers, cotton or woolen; one undershirt, cotton or woolen; one pair stockings, cotton or woolen; one collar, white."

7. It is requested that this matter be expedited so that the remains may be shipped.

......................................,
Lieut. Colonel, Medical Corps, U. S. A.

(2 copies to camp Q. M.)

[Form No. 11 BHCG.]

Certificate of Undertaker for Deceased Soldiers.

Date ...., 1918.

This is to certify that ....
(Name in full.)

formerly a .... of ....
(Rank.) (Organization.)

has been properly embalmed at our undertaking establishment in Rockford, Ill., that the vessels of the head WERE or WERE NOT (erase words not needed) properly injected, that the remains were properly clothed (complete suit of underwear, socks, blouse, breeches, O. D. shirt, leggings, shoes, collar ornaments) furnished by the soldier's commanding officer.

The remains were shipped to ....

....
(Street address.) (City.) (State.)

Did relatives view remains? .... Name of relative.......................................

Remarks made by relatives..

Date and hour of shipment......................... via .... Railroad.

.....................................,
Contract Undertakers for the Government.

[Form No. 16 BHCG.]

Record of Funeral Services.

(Chaplain, Base Hospital.)

Funeral services were held over the remains of the late

.... at ....m.
(Name.) (Rank.) (Organization.) (Time.)

....
(Place.)

The relations were (not) present. This soldier died of...

at .... m., ...
(Time.)

.....................................,
....
(Rank.)

COLORED PATIENTS.

Before any colored troops were assigned to Camp Grant, the commanding general assembled all unit commanders and instructed them to treat all soldiers alike irrespective of color. He stated that the colored men were drafted for the same purpose as the white men and officially no distinction was to be shown. All unit commanders assembled their commands in turn and imparted to them these instructions.

In the hospital, colored patients were placed in the same wards with the whites; there was a common dining room; and they were freely allowed the use of the exchange. Not an instance of racial friction was reported as having occurred between patients in the hospital.

During the spring of 1918, general instructions were received from the Surgeon General to classify the patients in hospitals in accordance with their race and to place the colored patients in separate wards. No friction had arisen and the hospital was comfortably filled with patients. A segregation would have necessitated twice the ward space being used. In view of the fact that no trouble had arisen and that there was inadequate space to properly segregate the patients, the old plan was continued.

CORRELATION OF OFFICES AND RECORDS.

Receiving office, discharge office (office of the registrar), ward, information bureau, clothing room: All patients were admitted through the receiving ward, and each was accompanied by a request from his organization surgeon for admission. This request had a tentative diagnosis, the name, rank, organization, barrack number, and sometimes the serial number of the patient. All patients were brought to the hospital by ambulances, obtained either from the ambulance company or the hospital.

RECEIVING OFFICE.

Forms 55*a*, 55*f* (the transfer diagnosis) three copies of the patient's clothing card, the receipt for a patient's valuables, and one blotter sheet were prepared in this office. The ward to which the patient was to be assigned was designated. The patient was then conducted to his ward by the orderly, who took with him Forms 55*a* and 55*f* and one copy of the clothing card. This was the authority for the ward master to admit the patient. The clothing card showed all articles of uniform the patient then had in his possession. The patient retained the receipt for his valuables. The clothing cards, 55*a*, blotter sheet, and receipt for valuables were numbered by means of a duplex numbering machine, and in advance. The blotter sheet provided space for 31 admissions. Thirty-one sets of clothing cards, histories, and receipts were numbered in advance and kept intact, being used consecutively. After midnight the noncommissioned officer in charge of the receiving office made five consolidated copies of the day's admissions, one for each of the following offices: Registrar, information bureau, chief educational officer, head medico-social aide, and receiving office (retained copy). At 9 a. m. the following morning, the receiving officer took the money, valuables, and trinkets to the discharge officer (registrar), with

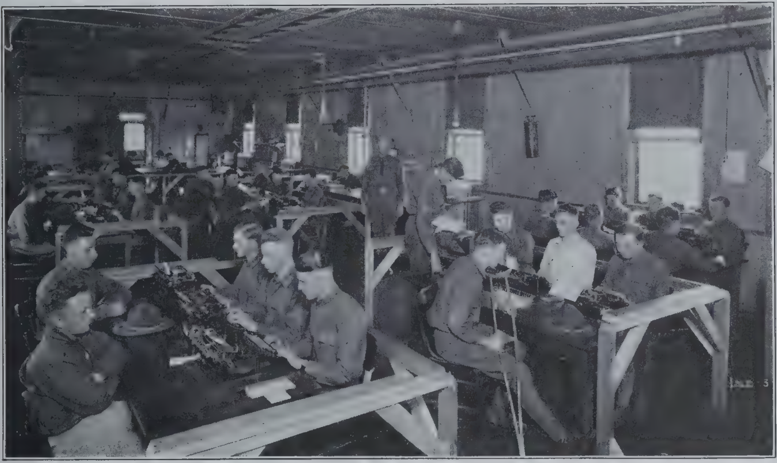


FIG. 83.—Receiving office, Base Hospital, Camp Grant.

two copies of the clothing card. These cards listed the valuables, etc. The registrar checked the lists, and if they were found correct he receipted for them on one copy of the card. This card was held by the receiving officer as his receipt. The third copy of the clothing card was filed with the patient's valuables in the registrar's safe.

WARD.

The patient was received and his clothing was checked against the clothing card. The clothing was then returned to the patient's clothing room with the property tag attached, a duplicate of which was retained by the patient. The clothing was accompanied by the property card, which was again checked by the noncommissioned officer in charge of the clothing room, the card then being returned to the ward by the messenger and attached to the patient's history.

The other Forms 55 were added to the patient's history in the ward. No Forms 55*a* were allowed in the wards, as a safeguard against patients being admitted directly to the ward. If a history was seen without Form 55*a* there was an immediate investigation. The authority for discharging the patient was with the ward surgeon. When the lower half of Form 55*a* was completed by the ward surgeon, it was then the duty of the ward master to get the patient out of the hospital. The signed history and property card were taken to the clothing room by the ward master and the clothing of the patient was obtained. The history was taken to the registrar. The ward master assembled his patients for discharge and took them to the registrar at 1 p. m. The patients were checked out by the histories. Their clothing and valuables were checked by the third copy of the clothing card on which the patient receipted for them to the registrar. After all patients were discharged, the registrar made five consolidated lists of discharges, one copy for each of the following offices: Information bureau, chief educational officer, head medico-social aide, receiving office, and the registrar's office (retained copy). A wall board was kept in the receiving office. On this board there was a row of cards for each ward; and each row was provided a card for each bed in the ward. The list of discharges was used in withdrawing cards from this board, of patients discharged, and the blank spaces, therefore, indicated empty beds.

REGISTRAR.

The registrar received the blotter sheet daily from the receiving office at 9 a. m. This sheet gave the necessary data for starting Form 52 for each patient. The list of admissions from the receiving office was used as a check. The valuables and clothing cards were also received at 9 a. m., and filed by register number in a safe, especially built for this purpose. This safe was kept in a strong room. The patient's register card was prepared from the blotter sheet and filed. All patients were discharged through the registrar's office on Form 52, completed from the history and diagnosis cards. The consolidated list of discharges was furnished the information bureau.

THE INFORMATION BUREAU.

The admission sheets were received from the receiving office; and when possible, the noncommissioned officer in charge of the receiving office at night prepared a card index for each patient admitted, showing the name, rank, organization, and ward to which assigned. If these cards were not prepared in the receiving office, they were prepared in the information bureau and filed alphabetically. The discharge office furnished a daily list showing all discharges. The cards were then withdrawn and placed in a dead file where they were held for 10 days and then destroyed. Patients were transferred from ward to ward only upon request of the ward surgeon and after approval of the chiefs of services concerned. When this transfer was completed, the ward master would take the request for transfer to the information bureau and the patient's ward number was changed accordingly. The request for transfer was then returned to the ward and filed with the history.

Two telephones were installed in the information bureau, one for incoming calls and one for outgoing calls. When calls were received the patient was located, his ward called, the necessary information obtained and given to the person calling, without it being made necessary to ring off.

A great deal of emphasis was placed on each office explicitly carrying out these instructions. However, in spite of this, patients would occasionally get lost in the hospital. The plan was then adopted to re-check all patients in hospital semimonthly, so as to obtain their exact location. All forms of disposition of patients were handled, as described, by discharge to duty. This system was very satisfactory and enabled the receiving office, discharge office, information bureau, and all wards to keep informed as to the movement of patients.

OFFICES OF THE MESS OFFICER, SERGEANT MAJOR, DETACHMENT COMMANDER, CHIEF NURSE, PERSONNEL OFFICER, COMMANDING OFFICER OF DETACHMENT OF PATIENTS, RECEIVING OFFICER, AND REGISTRAR.

This correlation is explained to show how the mess officer was kept informed, at all times, of data essential to checking his daily mess receipts. The detachment office and personnel office would send daily a statement to the sergeant major exhibiting all changes in the enlisted personnel—assignments, transfers, discharges, and sick. The chief nurse rendered a daily morning report to the sergeant major showing similar changes among the nurses or civilian personnel employed for the nurses. The personnel office reported to the sergeant major, likewise, changes for reconstruction aides, after the morning report from the chief educational officer had been received. The detachment of patients rendered a morning report for patients on furlough or on sick leave. The registrar furnished a list of discharges to the receiving office. This list was then classified according to officers, nurses, enlisted men, and civilians, added to the surgeon's morning report and returned to the sergeant major. The sergeant major then made his report to the mess officer, showing the number of enlisted men, officers, nurses, and civilians employed in the hospital that day. The information also showed what civilian employees were entitled to rations and those civilians sick in hospital who were on either the enlisted or commissioned status. This enabled the mess officer to compute his income for that day. These details were necessarily accomplished by 9 a. m., and were checked by the commanding officer.

OFFICER OF THE DAY'S REPORT, SURGEON'S MORNING REPORT, BED REPORT, AND FIELD REPORT OF PATIENTS (FORM 83, M. D.)

The old officer of the day reported at 9 a. m. daily, presenting in writing his report for the preceding 24 hours. On this report was shown the number of admissions, discharges, the number of civilians, by name, and the total number of patients in hospital. These figures were checked against the surgeon's morning report, which was prepared under the sergeant major's supervision, classified by organization. These two reports were checked against the bed report which showed the total number of patients in hospitals, by wards, prepared under the supervision of the receiving officer. The three reports were then checked against the patient's field report (Form 83, M. D.), prepared by the registrar, and showing the total number of patients in hospital, by diseases. The four reports were checked by the commanding officer. A great deal of information was obtained by reading these reports and any errors in them were readily detected in the number and classification of patients.

DEATH RECORDS.

No patient was declared dead except by a medical officer. This officer then completed Form 55*a* of the clinical history and prepared the death certificate in duplicate (one for file). These records were immediately sent to the adjutant, who caused the death check to be started, giving this particular death the next serial number. The clinical chart was marked conspicuously in red pencil with this number, which was also placed on an adhesive strap fastened, under the supervision of the medical officer, around the deceased's left forearm, near the elbow joint. The strap showed, in addition to the number, the patient's name, rank, and organization. The remains were taken to the mortuary where the noncommissioned officer in charge entered in the mortuary book the information shown on the adhesive arm band.

It was the duty of the adjutant to see that a "danger" telegram had previously been sent and that the undertaker was immediately notified. A copy of the "danger" telegram was attached to the death check sheet. The fact of death was immediately reported to the deceased's organization commander on a blank form used for that purpose. This form also included any necessary data for the organization commander. The following morning five complete and itemized lists of deaths were prepared, one copy each for the camp surgeon, the attending surgeon in Rockford, the hospital chaplain, the chief of the laboratory, and one to be retained. The undertaker called for the remains, and reported to the adjutant, who gave him a copy of the death certificate. This certificate was the authority for the undertaker to receive the remains from the noncommissioned officer in charge of the mortuary. The undertaker receipted in the mortuary book for the remains, and that the remains were properly embalmed was certified to by the undertaker. When the remains were ready for shipment the undertaker notified the chaplain and the attending surgeon in Rockford. The attending surgeon inspected the remains in accordance with regulations and submitted his written report of that fact. The chaplain held services, of which he submitted a written report. The chief of the laboratory was informed in order that he might perform an autopsy, if advisable.

All of the above-mentioned reports were returned to the adjutant and attached to the death check sheet, as was also the receipt for the patient's valuables, in compliance with the one hundred and twelfth article of war.

When shipping instructions were received from relatives, a copy was furnished headquarters, Camp Grant, where the necessary transportation was issued, as well as orders for an attendant when necessary. Copies of these proceedings were also attached to the death check sheet. When shipment had been made and all reports had been turned in, the entire proceedings were brought to the commanding officer for signature, after which they were filed with the patient's chart. If an autopsy had been performed a report of this was also filed with the chart.

By this means it was possible to double-check every action taken, and out of 1,304 deaths which occurred at this hospital but one serious error was made. This error was due to the fact that, during the influenza epidemic, among those who died were two enlsited men, one named Toney Mack and the other Mack Toney. Both bodies were shipped to the same address. The error was discovered, however, before the remains reached their destination and the shipment was stopped by telegram. The error was detected in the double-check system.

DUTIES OF OFFICERS OF THE DAY AND ASSSISTANTS.

Memorandum No. 35.

HEADQUARTERS, BASE HOSPITAL, CAMP GRANT,
Rockford, Ill., May 26, 1919.

By direction of the commanding officer the tour of duty of the officer of the day is 24 hours, 9 a. m. to 9 a. m. He will report on duty and off duty to the commanding officer in person with a written report and his recommendations at 9 a. m.

During his tour he will remain in touch with the telephone operator and the receiving office so that he can be located without delay. He will admit all patients to the hospital between the hours of 12 p. m. and 8.30 a. m. He will be responsible that patients are admitted to the proper wards, that their money, valuables, and trinkets are properly collected and receipted for and delivered to the registrar, and that patients receive the proper treatment after the ward surgeons are off duty.

Civilians will not be admitted to this hospital without authority from the commanding officer except civilian employees of the Quartermaster Department who are suffering from injuries or extreme emergencies, and in either case the report of the officer of the day will give the details in full. A separate written report will be made for all civilians treated at this hospital who are not admitted, giving name, date, circumstances, diagnosis, and treatment.

No charges will be entered against any patient, except the hospital charges under Army Regulations, and no one will receive payment from the patients for services of any character.

The officer of the day will inspect the hospital once between 6 p. m. and midnight and once between midnight and 6 a. m. At each inspection he will satisfy himself that the night guards are properly performing their duties, that all unauthorized lights are extinguished at 9 p. m. and that the hospital is quiet and orderly. He will visit all wards and satisfy himself that all patients are receiving the necessary treatment and that the ward attendants are properly performing their duties. At each inspection he will check the patients in the detention ward and verify the presence by observation of every prisoner in the hospital. He will inspect at least two meals a day in all kitchens except nurses' quarters and officers' mess (officers on duty).

Any medicine or property issue urgently required for the cure and treatment of the sick after the ward surgeons are off duty will be signed by the officer of the day, entering the word "emergency" over his signature.

The adjutant will be notified of all seriously ill patients that have not been previously reported, and all deaths, giving the name of patient, his organization, and name and address of his nearest relative in order that the required telegrams may be sent. The remains will be labeled by placing a strip of adhesive plaster 1 inch wide around the middle of the left forearm, giving the full name, rank, and organization, and promptly removed to the morgue and placed in the morgue refrigerator. The officer of the day or ward surgeon will see all patients before death if possible; otherwise, immediately after death. A report of death will not be accepted from nurses.

Interchange of a part of a tour of duty between officers is prohibited, but officers may change entire tours by notifying the adjutant the day before the tour commences.

At the termination of his tour, the officer of the day will enter on his report any untoward events which have happened, sign this report, along with signature of new officer of the day, and present it in the proper manner to the commanding officer.

In addition to the officer of the day there will be a medical and surgical officer of the day detailed by the chief of their respective services. These officers will report to the officer of the day at 7 p. m. in the receiving ward, and the report of the officer of the day will give the names of these officers. The duties of these professional officers of the day will be to attend the sick in their respective services between the hours of 7 p. m. and 8.30 a. m. They will make at least two rounds during their tour of duty, visiting all wards in their service, give the necessary emergency treatment, and assure themselves that the attendants are awake and on duty, and that the patients are receiving the proper care. Any neglect in the care of patients or other factor worthy of note is to be reported to the officer of the day, who will incorporate it in his report. These officers will remain in touch with the receiving office at all times during their tour so they can be located without delay, and will sleep in the receiving ward. These officers will not remain in their permanent quarters while on duty. Any unnecessary delay in being able to locate any one of these three officers will be taken as a neglect of duty on the part of the officer in not keeping the receiving office properly informed.

In case of fire or fire drill the officer of the day is directed to report at the scene of the fire and take charge of the Government property. He will order the necessary number of soldiers who may be standing around to guard the property. In case of fire drill he is to report to the fire marshal.

All orders issued prior to this date that are contradictory to this order are hereby rescinded.

By order of ——— ———.

——— ———.

FIRE PREVENTION AND FIRE DRILL ORDERS.

General order No. 6.

Headquarters, Base Hospital, Camp Grant,
Rockford, Ill., May 26, 1918.

For purposes of instruction, fire prevention, and fire fighting at the base hospital units, this unit is divided into eight zones, as follows:

Zone 1.—Including nurses' quarters, A, C, and D; officers' quarters, wards 11, 12, 13, 21, 22, 23, 24; commanding officers' quarters, administration building, laboratory, operating room, and receiving ward.

Zone 2.—Including officers' ward, eye, ear, nose, and throat building, wards 31, 32, 33, 34, 41, 42, 43, 44, and Red Cross building.

Zone 3.—Including wards 15, 16, 17, 18, 25, 26, 27, 28, general mess hall, kitchen, and guardhouse.

Zone 4.—Including wards 35, 36, 37, 38, 45, 46, 47, and 48.

Zone 5.—Those buildings north of the first line of wards, including wards A, B, C, E, F, G, and H, psychopathic ward, morgue, chapel, power house, nurses' annex, nurses' quarters B, E, and F, and base hospital barn.

Zone 6.—That part of the base hospital unit east of Kishwaukee Road, including the detachment mess and kitchen, barracks, and lavatories, medical supply depot warehouses, shops, laundry, and garage.

Zone 7.—Including wards 51, 52, 53, and 54.

Zone 8.—Including wards 55, 56, 57, and 58.

The zones will be designated by sounding fire call, followed by 1, 2, 3, 4, 5, 6, 7, or 8 blasts, indicating the proper zone. This to be repeated as long as necessary.

The noncommissioned officer in charge of the detachment will take charge of the hose cart located near the power house. The recruiting sergeant will take charge of the hose cart located south of ward 46. The senior noncommissioned officer in the sergeant major's office will take charge of the hose cart immediately in front of the administration building.

The detachment commander will detail 10 men to report to each of the above noncommissioned officers to handle the above hose carts.

When fire is discovered it will be immediately reported to the telephone operator, who will report it to the central fire station, Camp Grant, 175; he will also notify the fire marshal of the base hospital, the officer of the day, the commanding officer, the adjutant, and the detachment office. One male nurse will remain in each ward, all others reporting to the fire marshal at the scene of the fire, bringing with him a pail of water. The operating room force will immediately repair to the operating room and prepare for an emergency. All available men from the dining room, kitchen police, all men of the outside police section, casual section, and of the quartermaster section, will report to the fire marshal at the scene of the fire. The officer of the day will report at the scene of the fire, obtain a detail from the men available, and guard all Government property. The officer in charge of the laboratory will keep two litters in the laboratory and detail four litter bearers to report to the officer of the day at the scene of the fire to handle such cases as may be necessary. Ward surgeons and the necessary administrative officers will report at their respective places of assignment and maintain order.

Fire extinguishers and fire buckets are in the various buildings of this hospital and everyone is expected to use every possible means to extinguish a fire as soon as it is discovered; the use of fire buckets for any other purpose than fighting fire is prohibited, and the officers in charge of the various buildings where these are located will be held responsible that these buckets are kept filled with water and used only for the fighting of fire.

When fire is discovered and the alarm given, the various details will procure their fire apparatus and report to the fire marshal at the scene of the fire. The various noncommissioned officers will familiarize themselves with the location of all of the fire plugs of the base hospital unit so that there will be no delay in finding these plugs.

G. O. No. 7, headquarters, Base Hospital, Camp Grant, Ill., dated December 25, 1917, is rescinded.

By order of ——— ———.

——— ———.

HOSPITAL DEPARTMENTS.

MEDICAL SERVICE.

During the first year in the history of the hospital, the great problem was the control and treatment of contagious diseases. Of these infectious diseases, measles was the most difficult to deal with, though streptococcus pneumonia complicated the measles in only a small proportion of cases. Mumps assumed considerable proportions because of the increase in the noneffective rate; but contagious diseases in general did not assume alarming figures in this camp during the first year.

The medical service from the first was well organized, and it was changed in no essential afterwards. It was here that the mask and the cubicle system of curtaining the beds were first used; and it was also on the recommendation of the first chief of the medical service that patients were masked when sent from camp infirmaries to the hospital. This system of masking was extended, by instructions from the Surgeon General's Office, to all hospitals in this country.

Following in the wake of the outbreaks at Camp Devens, the Great Lakes, and other camps, Camp Grant was visited by the so-called Spanish influenza in an explosive manner Saturday, September 21, 1918. So sudden and appalling was this visitation that it required the greatest energy and cooperation of every officer, every man, and every nurse to meet the emergency. Up to that time the 12 ward barracks were occupied as quarters and storehouses, and 12 wards of the main part of the hospital were empty. It was obvious that the epidemic was on hand and that great effort would have to be made to provide sufficient bed space. Therefore, all two-story ward barracks were vacated and every available officer, nurse, and enlisted man was called upon.

On Sunday, September 22, 1918, the admissions to hospital numbered 194. The main portion of the hospital was made ready for occupancy, increasing the available beds to 1,318. The total number of patients in hospital was 836. On the following day the admissions to the hospital were 370, making a total of 1,159.

Telegrams were then sent to all officers on leave to return without delay. Every effort was put forth to open all two-story ward barracks, and by nightfall six of these buildings were completely equipped for 480 patients. Property meetings were held among the various executive departments of the hospital, the camp medical supply officer and his assistants, as well as the local director of the American Red Cross. Immediate steps were taken to obtain more property.

Tuesday, September 24, admissions were 494. Six additional beds were added to every influenza ward and two convalescent barracks were completely equipped. On the following day the admissions were 711. Patients were placed in corridors 2, 3, and 4. A property meeting was held, and, because of the emergency, the camp medical supply officer sent his assistant to Chicago to expedite shipments of supplies. One thousand units of mess equipment were ordered by the mess officer, and the Red Cross placed an order in Chicago for 6,000 sheets and other supplies.

On Thursday, September 26, there were 607 admissions, making a total in hospital of 2,598. Up to this time there had been three deaths from the disease. The detachment, Medical Department, moved out of its barracks into tents, and these barracks, the exchange. and the corridors were made into a 500-bed hospital.

Evacuation Hospital No. 37 turned over its entire personnel to the hospital; the depot brigade furnished 250 men as laborers; beds were set up and bedding sacks stuffed with straw; and quartermaster property was used entirely to enlarge the hospital over 1,800 beds. Officers, nurses, and enlisted men were sick in the hospital. Four carloads of medical supplies were received by express, and about 30 motor vehicles were put into use handling the heavy supplies. The receiving office was overtaxed but found to be handling the patients very satisfactorily. The Red Cross took over the handling of the patients' money. The depot brigade cared for patients also. Approximately 300 patients were sick in the infirmaries. Tent floors, Sibley stoves, and electric lights were supplied the tents occupied by the enlisted men of the hospital detachment. The clothing room becoming overtaxed, the patients' clothing was checked, bundled, and placed under the heads of the patients' beds. The mules of the animal-drawn ambulances became exhausted, and Quartermaster trucks and private motor vehicles were called into use. Seventy-five enlisted men from the depot brigade were attached to the base hospital, but many of these men were sick upon arrival. The registrar's office was moved to the ward room (officers' ward), and the entire receiving ward was turned over to the receiving officer. Patients who were discharged were sent with a request to their commanding officer that they be relieved from duty for one week; and, because of the weakened condition of the patients, they were not allowed to walk to their barracks.

The number of nurses was inadequate, and the Red Cross transferred 25 from Chicago and surrounding points.

On Friday, September 27, 1918, the admissions were 671; total patients in hospital 2,936; deaths, 3. Because of the cold nights and threatening weather, it was considered a risk to place patients on the various verandas without inclosures, so the constructing quartermaster was called upon for assistance. He furnished 50 carpenters, and the utilities department furnished a like number. With their cooperation, 39 verandas were inclosed with roofing paper and muslin, and 800 beds were placed on them and made ready for occupancy. The War Relief Committee was called upon to make sputum cups, thus relieving nurses of this work; and the school for bakers and cooks was requested to furnish 14 cooks.

On Sunday, September 29, 1918, the admissions to the hospital numbered 788; the patients then in hospital numbered 3,346; deaths, 6. Nine barrack buildings of the sanitary train were turned over to the hospital for hospital purposes. Barracks 827–N was fully equipped for 126 patients, and all mumps cases were transferred thereto from the main part of the hospital. A kitchen was started in this building, and all mumps patients were subsisted there. The heavy equipment was placed in six other barrack buildings in preparation for further expansion. A check was made of the hospital, and all wards were furnished with additional hospital property, principally linen, as a working surplus. Two hundred and sixty additional enlisted men were attached to the hospital; the others from the depot brigade, as well as officers, nurses, and enlisted men, were showing marked fatigue at that time. There were 4 medical officers, 45 nurses, and 63 enlisted men of the base hospital detachment sick, principally with influenza.

By extreme effort on the part of all concerned, and using all means to obtain property, the hospital was expanded from 610 occupied beds to a capacity of 4,102 beds within a period of six days.

The American Red Cross opened an emergency canteen service in the Red Cross house from which to serve light lunches and hot coffee to officers, nurses, and enlisted men of the base hospital.

On Monday, September 30, 1918, there were 683 admissions to the hospital; 490 patients discharged; and 8 deaths. The total number of patients in hospital was 3,546. During the day 160 beds were added to the various verandas of the influenza wards, thereby increasing the hospital bed capacity to 4,381, and two additional barracks of the sanitary train were fully equipped as wards, making three barracks in that area available for patients.

Patients in hospital, plus personnel on duty (including those attached), brought the total population of the base hospital up to approximately 11 per cent of the entire camp. The main kitchen served the major portion of these and during the day prepared 2,780 liquid diets and between 1,500 and 2,000 regular diets. As the number of persons becoming sick was increasing, all those on duty at the hospital were advised to take advantage of every opportunity, when off duty, to take light exercise in the open, or rest or relaxation. On this date there were 5 officers, 51 nurses, and about 100 enlisted men on sick report. In the event ward men were left on duty for more than 12 hours a day, they were instructed to call the detachment commander and inform him accordingly, as occasionally this detail was overlooked during the rapid expansion of the hospital.

The nursing force of the wards was extremely inadequate. However, every nurse and available man was assigned. In order to help the situation, a service corps was organized and divided into eight sections; and a student nurse was placed in charge of each section, with 6 men as her assistants. The hospital was divided into eight areas, a service section being assigned to each area. The principal duties of these sections were to assist the ward personnel by policing the ward and doing the heavy work. Their hours of duty were from 7.30 a. m. to 5.30 p. m.

Tuesday, October 1, 1918, 561 patients were admitted to the hospital; 496 were discharged, making a total in hospital of 3,601. There were 14 deaths. All deaths were due to pneumonia following influenza (clinical). The admissions to the hospital had diminished approximately 100 daily for the preceding three days. To keep relatives of patients ill in hospital informed as to the condition of the patients, "danger" telegrams were sent out at regular intervals.

On Wednesday, October 2, 1918, the admissions were 412, discharges 426, total number in hospital 3,587. There were 30 deaths that day, due to pneumonia, all following clinical influenza. The number of admissions was smaller than during the previous day, but the patients admitted were more seriously ill, and a major number of litter cases was among them. The number of pneumonia complications rapidly increased; nine wards were filled with this type of disease.

Local undertakers were unable to cope with the situation, their capacity being estimated at 13 to 15 bodies a day. Inspection of their establishment revealed 25 untouched bodies at 5 p. m., while 47 remained in the mortuary at the base hospital. Their establishment was in confusion and was not being systematically managed; so two soldiers (embalmers) were sent to their assistance to work under a sergeant of the base hospital detachment, an experienced embalmer. Five more soldiers and a clerk were asked for.

Great confusion in the records of the information bureau resulted from many transfers of patients in and about the hospital without the information bureau being properly notified. A consultation was held and it was decided that, generally speaking, pneumonia patients would be as well cared for in influenza wards as they would be if transferred to pneumonia wards. One ambulance and three wheel litters and a motor truck, together with many men, had been in use an entire day in transferring pneumonia patients to pneumonia wards.

On Thursday, October 3, 525 patients were admitted to the hospital; 482 were discharged; total remaining in hospital, 3,659. There were 42 deaths due to pneumonia following influenza. There was a slight increase in the number of cases admitted and a large increase in the death rate. Patients admitted to the hospital were more critically ill than before; there were more litter cases admitted; and more patients were developing pneumonia throughout the hospital than had been the rule. Approximately 40 nurses arrived for the emergency, and telegraphic notice was received that a like number would arrive in the near future. The ladies of Chicago volunteered their services in large numbers. The services of these ladies were used for filling capsules, work at the information bureau, the preparation of paper cups, clerical work in the wards (transferring temperatures from memoranda to clinical records), and in the supervision of the Red Cross canteen.

The number of visitors, relatives who had been summoned by "danger" or "death" telegrams, greatly increased. The ward personnel was instructed to show these visitors every consideration during their moments of deep distress. Authority was received to employ civilian nurses, and, as they were sadly needed, a great many were employed.

There were 438 telegrams sent out and received by the hospital on this day; and as the telephone lines were swamped a letter was written to the commanding officer, Camp Grant, recommending additional lines. From 400 to 500 telegrams were sent and received daily. The establishment of an emergency telegraph office was recommended.

All the undertakers of Rockford were called into a conference, at which each agreed to take his share of the base hospital work at $50, the contract price. There were at that time 49 bodies in the mortuary and about 30 in Rockford untouched. Each undertaker took his capacity, which was from 3 to 10 bodies, and after all had their establishments filled there were about 30 bodies left in the hospital mortuary. It was obvious that something had to be done in the way of organization and increased capacity. The president of the Western Casket Co., of Chicago, was requested to come to Camp Grant for consultation and assistance.

On Friday, October 4, the admissions to hospital numbered 437; discharges, 520; and deaths, 76—all due to pneumonia. The total number of patients in hospital was now approximately 3,396. There was a decrease of approximately 100 patients admitted to hospital, but the condition of those admitted was of a more serious nature.

The exact hour of death, to the minute, had to be given on the clinical record, and ward surgeons were instructed to see that this information was placed on all clinical histories before they were sent to the office.

The handling of the effects of the deceased grew into an enormous burden. To meet this emergency, an Infantry officer was attached to the base hospital on this date to handle all patients' clothing, valuables, trinkets, etc. His office was established in the clothing room of the receiving ward, and to him company commanders had to report in order to obtain, and receipt for, the effects of the deceased.

The procuring of transportation for remains developed into a large and important problem. A sergeant of the Quartermaster Corps was placed in charge of the transportation for remains as well as the clearing of the same from the hospital mortuary. His office was located in the administration building of the hospital, and all inquiries relative to the shipment or location of a body were referred to him.

The president of the Western Casket Co. arrived, on this date, with a number of embalmers. He consulted with the local undertakers, and by evening a building had been secured which satisfactorily cared for the situation. Arrangements were made whereby local undertakers were to transport the bodies. Three trucks, without tops or sides, were furnished for this purpose, but these were rejected and Army trucks were used, with an officer of the Quartermaster Corps in charge. By midnight the mortuary was empty, although there had been 103 bodies during the day.

On Saturday, October 5, 1918, there were 439 admissions, 328 discharges, and 102 deaths, all of the latter due to pneumonia, and the total number of patients in hospital was 3,579. The admission rate remained practically at this level for several days. The mortality rate having increased steadily from the first week of the epidemic, it was thought probable that the apex had not yet been reached.

There was no known specific treatment for this disease and no known absolute prevention. Therefore, the following memorandum was issued: "The wearing of masks and gowns, frequent washing of the hands, and avoiding putting the hands in mouth or nose are very important. Persons must avoid crowding whether on duty or not, and all officers, nurses, and enlisted men should use every effort to avoid this. Fatigue plays a very important part in rendering one susceptible to sickness and should be avoided as much as possible."

A sufficient number of nurses arrived under orders, together with an adequate number of enlisted men. There being a division of responsibility between the service corps and the ward men, the wards were not sufficiently policed. The service corps was then abandoned. The embalming problem was solved through untiring effort.

On Sunday, October 6, the admissions numbered 370; discharges, 430; deaths, 99—all due to pneumonia. The total number of patients in hospital was 3,420. During the day the head house was equipped and opened as nurses' quarters. The eye department was moved to the former electrotherapeutic room; the ear, nose, and throat department was moved into operating room No. 3; and the recruiting office was moved into the hallway of the dental department. There were now 370 nurses (including student nurses) and these were quartered in the Red Cross house and barracks 1029–N, as well as in the head house and in the regular nurses' quarters.

The death rate reached its highest point October 6, when 116 deaths were recorded. The city mortuary was overtaxed, leaving 20 bodies at the base hospital at 8 p. m.

The number of visitors increased until thousands of persons called upon the information bureau daily for various kinds of information. During a day several thousand telephone calls were answered and sent and 768 telegrams received and sent out. The space was inadequate, and in order to meet the demand a hospital ward tent was erected, floored, and wired with drop lights. Three telephones were installed, desks conveniently arranged, seats provided for visitors, emergency beds placed for persons who might need them, cloak and coat hooks provided, and stoves installed. The new information bureau was conspicuously marked by signs, electric lights, and a Red Cross flag. An arc light was provided and the parking area in the vicinity of the information bureau brilliantly illuminated. The tent communicated with the near-by corridor through which visitors were conducted to the various wards by Red Cross representatives, after masks and gowns had been provided them. The index was transferred and only direct information to visitors was given, the clerical side of the information bureau being retained in its original place.

On Monday, October 7, the admissions numbered 235; discharges, 301; deaths, 116; total patients in hospitals, approximately 3,238.

The number of pneumonia cases increased until there were about 1,250 patients in the hospital suffering from this disease. Following a conference held among the medical men of the institution, it was decided to group pneumonia patients so that those acutely ill, coughing, and running high temperatures would be in one group, the convalescents in another group, and the intermediate cases in a third group. Transfers were made accordingly. The idea of the plan was to prevent reinfection of the convalescent patients. It was also decided that cubicle sheets extending to the foot of the bed both interfered with ventilation and prevented the ward attendants from keeping a close watch on the patients; so, thereafter, cubicle sheets were so arranged as to extend from the wall to a point not beyond the patient's waistline.

There were several instances where mistakes were made in the addresses of the deceased. So far as known such errors were discovered before shipment of the remains. Case numbers were used on all records after death, including a numerical roster, alphabetical card index, death certificate, history, reports to the quartermaster and company commanders, the arm band, the check sheet, and telegrams. This proved of the greatest value. A list of the admissions was made, in triplicate, in the receiving office, one copy being sent to the chief of medical service, one to the camp surgeon, and one to the receiving office. The receiving office handled only the blotter sheet and the valuables of the patients. At the time Form 55*a* was made, the register of patients' card, No. 77, was made, with a carbon for the index and the discharge of the patient. The receiving office also prepared a discharge sheet in duplicate, one for the information bureau and one to be retained.

On Tuesday, October 8, the admissions dropped to 195; 358 patients were discharged; and the total number in hospital was 2,957. There were 98 deaths, all due to pneumonia following influenza.

The general improvement in the appearance of the hospital during the preceding 48 hours exhibited a better control and a nearer approach to the previous efficiency of the hospital organization. The extra beds were removed from the 30 rows of wards. There was every indication that the epidemic had reached its peak.

On Wednesday, October 9, 133 patients were admitted, 268 were discharged, leaving a total in hospital of 2,782. There were 107 deaths, all due to pneumonia. As there were approximately 1,500 cases of pneumonia in the hospital, this death rate was not considered surprisingly high.

During the early days of the epidemic, the increasing morbidity rate among the personnel was alarming. The civilian nurse personnel showed the highest percentage, and, of those sick, three died. There was great difficulty in getting these nurses to wear masks or gowns, or to carry out many other orders. The graduate nurses came next in number, on the sick list, and three of the Army nurses died. The detachment, Medical Department, had a very high sick rate. About 10 per cent were sick in hospital and the deaths were 12. The nurses, Army School of Nursing, had the lowest sick rate, with but one death. This nurse was not in good health and appeared below normal on admission to the school. As the pupil nurses worked in the wards, on long hours, it was thought that the reasons for their low sick rate were strict adherence to carrying out orders pertaining to masks and gowns, their outdoor training before the epidemic, and their physical condition in general. Eleven medical officers contracted influenza, but among them there were no deaths.

Many of the emergency nurses did not render satisfactory service and caused considerable work and worry by expressing their desire to resign and go home. It was believed that the service would be better off without this class, and they were allowed to return, although some of them rendered less than one day's service.

The sick rate for the nurses continued high, and on October 8 there were 71 off duty out of 400, while of 1,600 enlisted men on duty there were but 57 excused because of sickness. To this date 4 nurses and 12 enlisted men died; there were no deaths among the medical officers.

On Thursday, October 10, 1918, 118 patients were admitted to the hospital; 214 were discharged; and the total number in hospital was 2,579. There were 77 deaths, all due to pneumonia. There was a noticeable improvement in the general condition of the epidemic during the previous 24 hours—there were fewer deaths, fewer admissions, and the patients as a whole seemed in better condition.

On Friday, October 11, 86 patients were admitted; 175 were discharged. There were 37 deaths, all due to pneumonia. One thousand five hundred pneumonia patients still remained in hospital.

Every effort was made to furnish as much fresh air to patients during the epidemic as possible, as rest in bed and fresh air, with ample water to drink, were believed to be the most important forms of treatment known at that time.

On Saturday, October 12, the admissions numbered 99, discharges 112, and deaths 54, all due to pneumonia. The total number of patients in hospital was 2,391. The small number of patients discharged was due to the fact that convalescents were being held longer in hospital. Up to this time it had been necessary to discharge patients, as soon as possible, to infirmaries, because of the pressing need of beds.

On Sunday, October 13, 85 patientswere admitted; 128 were discharged; deaths from pneumonia numbered 36; and the total number of patients in hospital was 2,331. There were 1,504 cases of pneumonia, 24 less than on the preceding day. The general appearance of the patients in hospital was greatly improved and the number of convalescents seen in the wards rapidly increased.

On Monday, October 14, 40 patients were admitted; 124 were discharged; and there were 29 deaths due to pneumonia.

Tuesday, October 15, 65 patients were admitted, 123 were discharged, and 20 died from pneumonia. The patients in hospital numbered 2,139. The two-story ward barracks were now standardized at 80 beds each, and all Quartermaster property was removed and replaced by Medical Department property.

On Wednesday, October 16, 95 patients were admitted and 175 were discharged. There were 22 deaths, one of which was due to scarlet fever, the remainder to pneumonia.

On Thursday, October 17, there were 67 admissions and 146 discharges; 10 patients died from pneumonia.

The total number of cases of influenza, pneumonia, and deaths reported daily is tabulated below:

TABLE 12.—*Influenza and pneumonia statistics, Base Hospital, Camp Grant, Ill.*

Date.	New cases of influenza.	New cases of pneumonia.	Deaths.	Date.	New cases of influenza.	New cases of pneumonia.	Deaths.
1918.				1918.			
Sept. 21	70	0	0	Oct. 16	19	25	10
Sept. 22	177	0	0	Oct. 17	30	17	18
Sept. 23	293	0	0	Oct. 18	19	11	9
Sept. 24	488	0	1	Oct. 19	6	4	13
Sept. 25	689	0	0	Oct. 20	19	8	9
Sept. 26	864	6	0	Oct. 21	15	8	5
Sept. 27	984	3	3	Oct. 22	5	5	2
Sept. 28	872	19	6	Oct. 23	14	3	3
Sept. 29	803	9	8	Oct. 24	1	1	2
Sept. 30	616	6	14	Oct. 25	3	2	3
Oct. 1	635	133	30	Oct. 26	10	0	1
Oct. 2	697	380	42	Oct. 27	8	1	1
Oct. 3	408	193	76	Oct. 28	6	4	3
Oct. 4	409	247	102	Oct. 29	3	0	1
Oct. 5	318	276	99	Oct. 30	4	0	0
Oct. 6	218	231	116	Oct. 31	3	0	1
Oct. 7	186	201	98	Nov. 1	0	2	0
Oct. 8	171	160	107	Nov. 2	2	0	2
Oct. 9	100	97	77	Nov. 3	1	3	1
Oct. 10	86	87	37				
Oct. 11	96	75	54	Total	9,554	2,332	1,060
Oct. 12	120	33	36	Not reported [a]	1,185		
Oct. 13	34	25	29				
Oct. 14	32	32	20	Total	10,739	2,332	1,060
Oct. 15	20	25	21				

[a] Upon investigation by the epidemiologist it was found that approximately 1,185 cases were not reported by the medical officers. These were the mild cases which were taken care of in the various infirmaries.

TABLE 13.—*Drugs used in dispensary, Base Hospital, Camp Grant, Ill., during the influenza epidemic, 1918.*

Magnesium sulphate—solution (3,600,000 c. c.) gallons	900
Liquid green soap (800,000 c. c.) do	200
Alcohol (360,000 c. c.) do	90
Whisky (108,000 c. c.) do	27
Chloroform cough mixture (800,000 c. c.) gallons	200
Liquor antiseptic, alkaline (600,000 c. c.) gallons	150
Dobell's solution (400,000 c. c.) do	100
Liquor cresolis compound (160,000 c. c.) gallons	40
Castor oil (80,000 c. c.) do	20
Formaldehyde (80,000 c. c.) do	20
Elixir iron, quinine, and strychnine (120,000 c. c.) gallons	30
Brown mixture (900,000 c. c.) gallons	250
Liquor ammonium acetate (40,000 c. c.) gallons	10
Tincture digitalis (20,000 c. c.) do	5
Calomel tablets	20,000
Aspirin tablets	92,000
Aspirin powder pounds	40
Codeine tablets	3,000
Morphine tablets	2,400
Strychnine tablets	25,000
Adrenalin tablets	5,000
Atropine tablets (hypodermic)	7,500
Quinine tablets	2,000
Digifoline ampules	250

TABLE 14.—*Figures and statistics from the influenza epidemic compiled by the Quartermaster Department, Base Hospital, Camp Grant, Ill.*

Carloads	17
Total weight of supplies handled pounds	750,000
Cubicle wire (about 50 miles) do	260,000
Muslin yards	11,000
Tar paper do	30,000
Straw pounds	125,000
Sheets	25,000
Total blankets used	20,000
Pillowcases	7,600
Supplies transported (truck loads)	240
Supplies transported (wagonloads)	520
Electric wiring	Over 1 mile
Labor days, 1 man for 1 day	2,675
Emergency tents with stoves and floors	215

There were 81 officers on duty at the hospital when the epidemic commenced. This number being very soon inadequate some medical officers were transferred from the camp, and request was made to the Surgeon General for additional officers. The number was rapidly increased to 130. Medical officers were relieved from all duties, such as detachment commanders, that could be performed by line officers, and line officers were assigned to the hospital by the commanding officer of the camp.

In order that the medical service could function properly with the rest of the hospital it was necessary to create an additional office. The officer in charge of this additional office was designated "chief of clinics." Special orders were issued placing this officer in charge of all hospital services, and empowering him with the authority to issue orders in the name of the commanding officer of the hospital. The chief of clinics continually made rounds over the hospital, visiting every ward daily, examining such cases as he thought necessary, instructing the ward surgeons and taking general charge of the distribution and discharge of patients. His services were of the greatest value, not only in this capacity but as an adviser to the commanding officer.

Much time was spent in preparing required reports. The services of five experienced officers of the medical service were required for from two to five hours each morning in preparing the reports for the camp epidemiologist, and then frequently the reports were only relatively correct. Other reports required by higher authorities demanded much time and necessitated the services of valuable medical officers.

During this epidemic the medical service constituted almost the entire hospital, since only a few surgical and special wards remained beyond the jurisdiction of the service. Yet, in spite of this enormous expansion within the short period of a week, there was system and order in the work of the medical officers. The chief of the medical service established a system of inspection and consultation that kept the service coordinated, and by means of a night force of medical officers on duty from 10 p. m. to 8 a. m. all medical officers had adequate rest and were at all times capable of performing efficient work.

The post-epidemic period until January 1, 1919, was one of anticlimax, both because of a let down after the epidemic and because the signing of the armistice brought a lessening of enthusiasm in all branches of the service. Logically, there was no reason for the latter effect in the Medical Corps, but it existed nevertheless. It is to the credit of the hospital organization and its personnel that this state of mind did not result in any lowering of professional standards.

The arrival of overseas convalescents brought a great variety of chronic cases, including some of the rarer diseases. During the first year of hospital activity there was a certain monotony in the type of disease cared for. During the second year, and especially after January, 1919, there was a greater number of chronic cases, the nephritic, cardiac, rheumatic, gastrointestinal, essential blood diseases, and diseases of ductless glands. Another circumstance which increased professional interest considerably was diagnostic work done in cooperation with the medical discharge board in the demobilization organization. Many obscure cases reached the hospital from this source.

SURGICAL SERVICE.

When the hospital was opened there were no surgical patients; and under the direction of the commanding officer drills were held daily for the purpose of teaching operating-room technique.

The first operation was a herniotomy. Following it, the number of operative cases gradually increased, until at the end of the year 1917 the total surgical admissions had reached the not inconsiderable number of 631.

The work of the surgical service was very much the same as that of any of the general hospitals of the larger cities of the country. Only 2 deaths in a series of 228 operations occurred, each the result of general peritonitis following acute appendicitis, the peritonitis existing at the time the patient was admitted to the hospital.

Until the middle of December, 1917, the sterilizing of all surgical supplies for the operating room was done in an Arnold sterilizer; in spite of this fact, there was but one case of postoperative sepsis. This complication was very mild and occurred in a double hernia, the interesting feature being that both sides of the patient were done without any change in gloves or gowns, and the side operated upon first became infected, the opposite side healing by first intention. Subsequent to the middle of December, the sterilizing was done in a modern steam sterilizer of the Morris-Scanlan type.

Prior to October 23, 1917, the operating was accomplished in the end room of one of the wards originally intended for either recovery of patients or as an isolation room. On October 23 the operating personnel and equipment were moved into the operating pavilion, which was devoted entirely to operating-room work. This pavilion had, with the exception of elaborate details of construction, all the advantages of a modern metropolitan hospital. Primarily, all the enlisted personnel on duty in this operating suite had absolutely no knowledge of any of the principles of asepsis or antisepsis, but very soon they reached a high state of efficiency.

The surgical service at the end of its first year of existence had the equipment of a first-class surgical unit. In the operating pavilion there were two large operating rooms which were connected by an anesthesia room and sterilizing room, containing ample sterilizers to easily meet the demand of 50 operations weekly. Adjoining the operating room was the office of the chief of surgical service, which was added in May, 1918, and a small laundry to reclaim soiled gauze and bandages. The latter proved of great economic value by reducing the use of surgical dressing materials to a remarkable minimum.

A third operating room, used only for septic cases, with an adjoining dressing room for emergency cases, was opened in the building for head surgery.

Surgical wards comprised, at the end of the first year of the hospital's existence, a receiving ward, which was opened in April, 1918. To this receiving ward were sent cases which did not go directly to the operating room. Here their histories were taken, physical examinations of them were made, and diagnoses of their conditions reached after careful consideration. There was installed in this ward a unit clinical laboratory in which the various blood and urine examinations were made in shorter time than by the usual routine. Here also the laboratory work of the other surgical wards was done. By using this ward as a diagnosis and observation ward, better diagnostic conclusions could be reached, and the danger of occasional contagious diseases being admitted to other wards was lessened. It was here that instructions to new officers were given in paper work, in the keeping of charts, and in the routine work of the ward.

In addition to the receiving ward, the surgical department had two recovery wards for clean postoperative cases, one ward for pus cases and one for orthopedic patients, including those with fractures.

About 150 officers were instructed in the surgical service and prepared for overseas work, many lectures and lantern slide demonstrations being given for this purpose. Officers of Base Hospital No. 58 and Evacuation Hospital No. 20, both organized at Camp Grant, were afforded opportunities to work in the wards and operating rooms, thus enabling their respective chiefs to observe the staffs concerned and to assign members of them in accordance with their qualifications. In addition to the regular officer class for instruction, special surgical meetings were held three times weekly; and ward "walks" through different wards took place practically daily, to keep up the interest of the surgical staff.

In so far as the surgical work at the base hospital is concerned, three epochs may be distinguished: The period of development from the beginning of the hospital to September, 1918. In September, 1918, the second period was ushered in by the influenza epidemic which demanded all hospital space and brought into the surgical service approximately 100 empyema cases. Fortunately, this period was of short duration and was followed by the period after the armistice, when the entrance of overseas cases into the surgical service of the hospital changed the character of the surgical work entirely. During the first period, the fitting of soldiers for duty, by operating on remediable defects, constituted the main activity of the service. Incidentally, appendicitis, accidents, and rarer surgical conditions, to be expected in a camp population of over 40,000, gave a variety to the work. In the second period, the work consisted principally of operative procedures on the empyemas occurring in the influenza epidemic. The statistics of the hospital show a mortality rate of all the empyema cases with all complications to be but 20 per cent. In the reconstruction period many cases of compound fractures following gunshot wounds, in all stages of repair and nearly all accompanied by osteomyelitis, kept the hospital surgeons and the departments of physiotherapy and reeducation busy. A number of aneurysms, skull defects, injuries to peripheral nerves, were of special interest. During this time, patients in the surgical department numbered as many as 1,400.

SECTION OF ORTHOPEDIC SURGERY.

This section was under the direct supervision of the chief of surgical service, and no sharp line of demarcation appeared between the orthopedic and surgical sections. The arrangement worked with complete satisfaction because of the willing cooperation of the various chiefs concerned.

The orthopedic section was one of the innovations in the Medical Department, and by reason of its newness in the military hospital, the limits of its field of activity were not clearly defined; and there was at this hospital, as in many civil hospitals, some concern in the assignment of the cases to the various sections of surgery.

Previous to the receipt of overseas wounded, the major portion of the orthopedic cases in hospital were fractures or joint injuries, the remainder being back cases, arthritic conditions, and deformities admitted for study or corrective work.

Other important work of this section was the examination of men to determine their fitness for various arms of the service or for their retention in, or rejection from, the Army. As a matter of course, a large percentage of such examinations was made on subjects of real, imaginary, or pretended foot disability. The handling of these foot cases for the best interests of the service presented quite a problem. During the earlier days of the orthopedic section, considerable time was given, by the out-patient service, to the correction of such deformities. With the growth of the camp, and increasing activities within the hospital, this work was taken up in the development battalion, and the orthopedic section acted only in an advisory capacity or as a board of review in these cases.

Other important groups examined were those suffering from low-grade arthritis of long standing, traumatic or focal in origin, and subjects of old healed bone and joint injuries which, though not incapacitating them for relatively inactive civilian occupations, produced sufficient disability to necessitate rejection from the military service. Particularly was this the case with internal derangements of the knee, and the fact was strongly impressed upon the officers of this service that this type of injury merited much more consideration than had been given many men already treated by them.

In the wards themselves the grouping of the bone and joint cases had very material advantages in the application of definite lines of treatment and in comparisons of end results obtained. The standard splints were used routinely and did not apparently lessen a man's initiative. They left much opportunity for ingenuity in their application to individual cases and at the same time offered strong evidence of the fact that simple apparatus, properly applied, gives the desired result. Such standard splints simplified the kind of supplies very much and their use made the officers in training familiar with them before these officers were assigned to units for overseas service.

With the admission of overseas cases in December, 1918, the service began to expand rapidly and take on a very different character. The signing of the armistice, and the demobilization following it, had greatly reduced the work of the orthopedic section; but after December 15, 1918, the wards quickly filled with open and closed injuries of bone, nerves, and soft parts. Dressing cases, hitherto rather rare in the orthopedic section, became the rule and the character of work to be done changed completely. The resources of the department were taxed to the utmost and the officers within it at this time were called on for more activity than at any time in the existence of the hospital, save during the days of the influenza epidemic. Once again the orthopedic section and the general surgery section had no sharp line of demarcation, for the cases were border line in such a large proportion of instances that only by active cooperation could the best results be obtained. At this time the orthopedic section, besides caring for wards where patients, more definitiely orthopedic, were collected, acted in an advisory capacity on splinting and physiotherapy throughout the hospital.

The addition, in January, 1919, of the department of physiotherapy, supplied the orthopedic service with a very necessary help in the way of massage and supervised gymnastics. The contribution by this department to the results obtained was a very large one and demonstrated the need of permanent provision of this kind wherever bone and joint injuries were treated.

LABORATORY SERVICE.

The degree of development and progress attained by the laboratory section could be equaled only by the best civilian institutions in the larger cities. Many physicians entering the military service at this hospital were astonished to find such a well organized and well equipped laboratory in the possession of facilities anticipating their demands to a marked degree in almost every phase of clinical medicine. In fact many men recently graduating from class A medical schools found the facilities for obtaining clinical laboratory data practically along the same lines and with the same degree of refinement as had been taught them while at school. Those who had been in general practice came to realize the importance of blood, urine, and other examinations in a way not before recognized; and discovered that clinical bacteriology, including pneumococcus-typing, claimed a position not to be disregarded in the intelligent care of medical and surgical patients. This much may be said regarding the relation of the laboratory to the ward surgeon, covering, in general, the examinations usually regarded as routine. The laboratory at this hospital did all this but its organization plans included a field of development almost equally important to the hospital and of paramount significance to its personnel, namely, constructive investigation. Unfortunately, its growth in this direction was cut short by the disorganization incident to demobilization of the Army.

During the most trying period of the existence of the laboratory, when the hospital was suddenly crowded with sick of the influenza epidemic, and when demands for laboratory supplies and equipment exceeded by far any anticipations, special provision was made locally, and so promptly were requests carried out that not once was the laboratory work delayed on account of want of equipment or supplies.

X-RAY DEPARTMENT.

The X-ray department was opened on October 31, 1917, when the space allotted to it consisted of but three rooms. The first room was used as an office and viewing room as well as for filing exposed plates. As the volume of work increased, the space allotted for the filing of plates became congested and it was found necessary to remove the old plates from the file. These were carefully placed in boxes and were moved out into the corridor; and the boxes were numbered and so placed that, when it was necessary to look at an old plate, it could be very easily found. The second room was used for radiographic and fluoroscopic purposes, a small room being walled off in which the transformer and unexposed plates were kept. The third room was used for a dark room and as a storeroom for chemicals and accessories.

The transformer installed was the Universal type (Wantz model) manufactured by the Victor Electric Corporation, and the accessories used were manufactured by the various X-ray firms of the country. Due to the unusually heavy demands on the transformer and to minor errors in installation, some difficulty was experienced in the early weeks of operation, but after the troubles were located and rectified no further difficulties were experienced and a greater volume of work was handled daily.

Until the end of 1917 there was a chief of service, one officer as an assistant, and three Medical Department enlisted men, acting as technicians. This personnel handled the work satisfactorily during that period. Subsequent to the end of 1917 there was a steady increase in the number and variety of X-ray examinations, as a result of which the work grew to such an extent that it was found necessary to increase the personnel and make some additions to the equipment. The personnel was increased to two officer assistants and six enlisted men. The principal addition to the equipment was one United States Army table and one portable X-ray outfit complete, this being added about the middle of the year 1918.

The apparatus and laboratory space permitted the accomplishment of any ordinary X-ray work, but was grossly insufficient for the volume of work demanded during the year 1919.

The X ray proved to be a very important factor during the last quarter of 1918, when the influenza epidemic was present, the major portion of the work consisting of X-raying pneumonia and empyema cases; also during the first quarter of 1919, when overseas patients in large numbers were X-rayed. The majority of these overseas patients were recovering from the effects of gunshot wounds and were for the most part such surgical cases as those with foreign bodies, fractures, and osteomyelitis; but there were some gassed cases and miscellaneous conditions which were included in the medical service. This great inrush of patients placed a heavy demand on the X-ray department, both for diagnostic purposes and as a means of obtaining a complete record of the man's physical condition before his discharge from the Army. During this time from 60 to 80 patients were handled daily and a great many instructive and interesting cases were encountered.

After Camp Grant was made a demobilization center, numerous patients were sent to the X-ray department for examination. A great many of these were men who had been overseas and had been seriously gassed. Each case was fluorscoped and if anything suspicious was found a set of stereoscopic plates was made. A report was sent to the medical examining board the same day; and in that way the men, in case their conditions did not warrant observation or treatment, were able to receive their discharges with the other members of their respective organizations. On account of the inconvenience of sending the men from the examining board to the hospital, and because the number of suspicious cases increased, a fluoroscopic machine was installed at the place where the men were examined. This took a great amount of work from the X-ray department, and only cases that needed plating were sent thereafter to the X-ray department.

The addition of the portable apparatus to the X-ray equipment made possible radiographic work in the pneumonia and empyema wards. It proved to be an indispensable aid during the influenza epidemic.

All acute chest conditions were X-rayed as a routine on their entrance to the hospital. The empyema cases had a plate and a film taken on the same exposure. The plate was kept on file in the main laboratory and the film was sent to the ward with the roentgenologist's report, both of which served as a means of reference until the case was dismissed from the hospital. The film was then returned to the main X-ray laboratory and was placed with the plate.

A complete set of localization apparatus was added to the X-ray department; and during the rush of convalescent overseas cases some localization for foreign bodies was required; but the work was not done on an extensive scale.

GENITOURINARY DEPARTMENT.

Immediately upon the opening of the genitourinary service of the base hospital, a definite policy was established to minimize to the greatest possible extent the loss of effectives from venereal diseases. To accomplish this it was necessary to organize and train a force of men to properly treat venereal diseases; and each enlisted man of the Medical Department, assigned to this service, was given individual instruction. A small unit laboratory was established and within a month after the opening of the base hospital the genitourinary department was functioning in every way and running smoothly.

The percentage of venereal diseases detected among the inducted men differed in no way from the average percentages detected at other camps; however, only active venereal diseases were admitted to this hospital for treatment. A working plan was established in connection with the organization of the camp, and all ambulatory venereal cases were treated as out-patients at the base hospital. By so doing it was possible to limit the service to two wards of the hospital and at the same time give the best possible treatment to all cases of the camp.

Each venereal case was gone over thorougly and its pathological condition was located. No routine treatment was followed for cases affected with gonorrhea; each case was individualized and treated according to the pathological condition present. When urethritis existed there was no self-treatment by the soldier. Each venereal ulcer was thoroughly examined for spirochæta pallida. Many times this required repeated examinations. Once the spirochæta pallida was demonstrated, intensive luetic treatment was started immediately. By following this plan of procedure not many cases of active secondary lues developed. The luetic treatment which was administered was in accordance with instructions issued by the Surgeon General. Venereal ulcers which were not luetic were handled in such a way that the stay in hospital of those having them was comparatively short and among them very few suppurating buboes developed.

Cases of pyuria, hematuria, etc., were carefully studied to locate the true pathological condition. Most of these complications were found to have existed prior to enlistment and men suffering from them were discharged on surgeon's certificate of disability. Those that were contracted after entrance into the service were given appropriate treatment. Very little operative work was done. Many soldiers were observed with varicocele. It was borne in mind that operative intervention in this condition was often followed by untoward results, and these cases were given palliative treatment, an effort being made whenever possible to have the men affected assigned to a duty compatible with the condition present.

During the spring of 1918 the camp received a large number of colored troops and among them there was a high rate of venereal disease. Because of this condition a camp venereal infirmary was established. The conditions which these colored recruits presented were such that they were not fit for military service, still it was felt nothing special could be gained by placing them in hospital. A thorough understanding between the officers at the base hospital and those on duty at the camp venereal infirmary made it possible for these two units to work hand in hand, and the same policy was pursued relative to minimizing the number of noneffectives by sending only those cases to hospital in which there was a definite indication for hospital treatment. No soldier was denied hospital treatment whenever such treatment was necessary.

DEPARTMENT OF OPHTHALMOLOGY.

The work done in the department of ophthalmology consisted of the following four distinct classes of activity: That in the out-patient department, where most of the work was done; the care of patients in the eye ward; consultations in other wards of the hospital; and the fitting and dispensing of eye glasses. The work of the out-patient department consisted of the treatment of the various eye diseases, refraction, numerous examinations for commissions, promotions, discharges on Surgeon's Certificate of Disability and special examinations for the air service. The total number of new cases treated in the department was 4,083; return patients 6,583. The total number of refractions was 2,529. Only serious cases, accidents, etc., were sent to the eye ward.

In a great many instances men were accepted for military service when they had surprisingly low vision. Correction of the error in these cases was most necessary for their usefulness in the Army and after their return to civil life. A gratuitous issue of glasses was made to these men. They were inclined to take two pairs of glasses, that furnished by the Army, and another, of better appearance, at their own expense. When the glasses, gratuitously issued, were sent to the soldiers it was very difficult to secure a receipt for them, accordingly, the practice was adopted of obtaining their receipt at the time the glasses were fitted. Many pairs, having been receipted for, were never called for, and it was necessary to use the frames and lenses for other soldiers.

Among the negro soldiers there were many absurd complaints, but in general their eyes were very good. Some cases of trachoma were seen, however, as well as some cases of true night-blindness.

The influenza epidemic left but one medical officer in the eye department, the two others being called upon to assist in the handling of the epidemic. A great deal of work was done in the eye department during the epidemic period, the influenza patients being affected usually with conjunctivitis.

During the period in which overseas patients were being handled in large numbers at this hospital there were many cases of wound of the eye and brain. In addition, many cases were referred to the department from the demobilization center of the camp for examination.

OTOLARYNGOLOGY SECTION.

The arrangement by which the work in the several specialties was taken care of in departments devoted to these specialties proved to be one of the greatest features in the organization of the base hospital. This provision made it possible to utilize the services of men whose years of work in each field prepared them for this task.

The department of otolaryngology was an important part of the base hospital at Camp Grant, as has been evidenced by the number of cases cared for in the department. The work naturally fell into three divisions: That in the otolaryngological ward; consultation on cases confined to other wards in the hospital; and the out-patient department. All the cases which required surgical treatments were included in the otolaryngological ward. The cases on which operations had been done under local anesthesia, such as the various intranasal operations, were placed in the ward for at least the first night, in order to guard against risk from a possible bleeding. Consultation work on patients in other wards of the hospital included the examination and treatment of a great many patients, especially in the wards assigned to the care of acute infectious fevers. These cases included, for the most part, those suffering from otitis media, acute tonsillitis, particularly where the condition was complicated by peritonsillar abscess, of which there were a great many, and cases of acute infection of the nasal accessory sinuses. The work carried on in the out-patient department was especially important. As in most out-patient departments where otolaryngology has been represented, the number of patients applying for treatment was very great, the major portion of them requiring advice rather than special treatment. Every effort was made to discourage unnecessary revisits to this department. This was done by directing the patient himself how to take care of such local treatment as could be readily done by the patient. Such cases were chiefly those who applied for treatment of nose and throat conditions, where surgical measures were not called for. Cases suffering from chronic defects in hearing were carefully diagnosed; and all those, where local treatment could offer no hope for improvement, were advised to return for a course of treatments. This latter group included cases of otosclerosis, many cases of chronic middle ear catarrh, and those with nerve defects. By this policy, not only was unnecessary congestion in the out-patient department avoided, but soldiers were not kept unnecessarily from duty.

An important part of the work which fell to this department was the examining of cases found to have defective hearing after they had been sent to Camp Grant for discharge. It was important to differentiate the cases of deafness due to shell concussion from those of chronic deafness, the result especially of otosclerosis or nerve deafness. This differentiation required a careful analysis such as could be carried out only by making a functional examination of the hearing with tuning forks.

Due to the large number of cases treated, efficiency in the work of the out-patient department was possible only through the intelligent assistance of the enlisted personnel, and that obtained from the nursing department. Where so many cases were passed upon, as was found to be necessary in this department each day, it meant that much of the work, particularly that dealing with the administrative part, the selection and preparation of instruments, etc., had to be entrusted largely to assistants other than medical officers.

NEUROPSYCHIATRIC SECTION.

The function of the neuropsychiatric service in the hospital was chiefly the examination of recruits referred by the division psychiatrist, during the early days of the emergency, and the care of the psychoneurotic, and of the frankly psychotic, soldiers during the entire period.

From the beginning, of course, it was understood that all the insane would be discharged from the Army as quickly as possible. In consequence, the psychopathic ward was based on retention rather than treatment. Quite frequently, however, it was found that patients had to be retained in the ward for a considerable length of time, due to various unforseen circumstances. The construction of the ward was found to be quite adequate and well arranged, but it hardly met the requirements for the insane, the psychoneurotic and the neurological cases and a guardhouse for the prisoners. It was very obvious that the insane, especially the disturbed type, should be isolated, preferably in single rooms with windows well secured and barred. It was rare that three or four patients of this class were in the ward at the same time, when four or five single rooms constructed in this manner would have been sufficient.

The lack of trained attendants and nurses was one of the handicaps in the neuropsychiatric service. A large percentage of the enlisted personnel on duty therein had little or no training in the care of the insane.

DENTAL DEPARTMENT.

When the first dental officers arrived in camp, four of them were assigned to the base hospital. One of these happened to have with him a student case of dental instruments and a foot engine. There being at that time no Government dental equipment in camp, these four dental officers alternated in the use of this secondary outfit. For a dental chair they used a plain wooden kitchen chair with an improvised headrest made of a piece of board, and the cuspidor was a galvanized-iron bucket. With this equipment they took care of such emergency cases as presented themselves.

On the arrival of the portable dental outfit, the hospital dental infirmary was moved into the bacteriological laboratory. When the hospital took over its permanent building the dental infirmary was temporarily established in two rooms of the administrative building. One of these two rooms was used as the office of the camp dental surgeon, the other was used as a dental operating room. The personnel consisted of four dental officers and one assistant.

The arrival of the base hospital dental equipment marked the next and final move of the dental infirmary. This was on December 29, 1917. The equipment, which consisted of three complete base outfits, each of which contained a Columbia dental chair, Ritter wall bracket, electric all-cord engine, and pressed steel aseptic dental cabinets, was finished in white enamel. Other articles of equipment, such as bedside tables, electric grills for the sterilization of small instruments, and electric fans, were issued from the supply room of the base hospital, by direction of the commanding officer. These three base equipments were installed in offices especially planned as to wiring, plumbing, and lighting; and gave the hospital a three-chair dental office, comparable to the better-equipped offices found in civil life. In addition, and in connection with these offices, there was a well-equipped dental laboratory with electric air compressors, electric lathes, vulcanizers, etc. Later there was added an X-ray equipment in a separate room, with an adjoining dark room. This was found to be necessary because the main X-ray laboratory was so busy as to make it impracticable to do the necessary dental work.

The surgical work included corrections of jaw fractures, partial jaw resections, draining of antra, removal of oral growths of various kinds, apiectomies, and extractions. This work was done under conduction anesthesia, except in rare instances where a general anesthetic was indicated, when either nitrous oxide and oxygen, or ether was used. This particular branch of the dental service of the hospital handled also between 400 and 500 cases of so-called trench mouth, or Vincent's angina (oral).

PHYSICAL RECONSTRUCTION.

Prior to January 1, 1919, there was no need of physical reconstruction at this hospital because the class of patients treated was principally of an acute type. Patients requiring prolonged convalescence were transferred to general hospitals. With the arrival of large numbers of overseas patients, however, it became essential to revise some of the policies of the hospital. Among the more important changes were those permitting patients more liberties, and the institution of means of procuring contentment, largely of a recreational nature.

The first 1,000 overseas patients admitted to this hospital proved to be extremely difficult to handle. They were disorderly, undisciplined, defiant, and were not willing to abide by military law as had been the case with other patients. Many of them had not been paid for months. They were improperly uniformed and were self-ornamented by many types of improvised so-called war insignia. They had a very exalted opinion of themselves and openly stated that persons who had not gone overseas were not in their class. From a professional standpoint the overseas patients varied a great deal in grades of physical condition, representing those cured and ready for immediate discharge, and all grades up to and including bed-ridden patients of months' duration. Among them were all classes of general medical and general surgical cases.

It was obviously necessary to use military discipline cautiously. It was also necessary to expand the hospital and its facilities to care for the entirely new type of patients. This expansion was provided along two general lines: First, to care for the professional needs of the patient; and second, to provide for his contentment in so far as that was practicable. It was to meet this latter requirement that physical reconstruction was destined to exercise its most important function, and it was about January 1, 1919, that instructions were received to organize this new service.

There were no persons at Camp Grant in the possession of any experience in physical reconstruction. There were no funds available nor was there existent space. Every effort was made to obtain officers and enlisted men at Camp Grant, but this was exceedingly difficult since nearly all persons then in the service were highly interested in being discharged therefrom. However, personnel was secured wherever possible, and officers and reconstruction aides were subsequently assigned by the War Department. Funds were allotted the latter part of January, 1919, but it was found difficult to utilize these funds because of either the complicated procedure in obtaining them, or misunderstanding on the part of local authorities. The entire hospital being occupied for purposes other than physical reconstruction, it was difficult to secure adequate space for this activity. This was overcome, however, by assigning one of the two-story ward barracks and securing the entire sanitary train area (which was adjacent to the base hospital) as a part of the hospital. It was not until the latter part of February that it was found possible to organize the reconstruction department, but thereafter its growth was reasonably rapid. The occupational and educational work was originally outlined in two sections: The academic and the manual training; and ward work. The first or academic and manual training work was prescribed for those patients who were convalescent and who wore their uniforms. This was necessary because the buildings used for this purpose were outside the base hospital area, necessitating patients going a considerable distance in order to reach them. The ward work was carried on exclusively in the wards among those confined either to bed or to ward clothing. There was little difficulty in organizing the academic and manual training department excepting the procurement of supplies. Considerable difficulty arose, however, following the development of ward reconstruction activities in the same place and at the same time that a great deal of surgery was being accomplished. The wards were filled with surgical patients, many of whom were more or less seriously ill. The confusion, necessary noise, and dirt incident to carrying on this work interfered with the care of the patients. Ward surgeons became apprehensive over infections, and the worry on the part of some of the patients. The nurses and ward men complained bitterly of the dirt and their inability to keep their wards in a presentable condition. Consequently, it became necessary to make a change as follows: The two-story ward barracks, nearest to the surgical ward, was set aside for electrotherapy and massage on its first floor. One half of the second floor was converted into a collective gymnasium, the other half being equipped for making such articles as basketry, bead work, and rugs, which hitherto had been carried on in the wards. This plan became so popular as to necessitate having more space, and in consequence one veranda was closed in, where clay modeling, poster painting, and other activities were carried on. This building was used principally by ambulatory ward patients of the bath-robe type, every effort being made to make their ward attractive. The patient was taken out of the hospital environment in going to this ward and was given every opportunity for work and amusement at one and the same time. Smoking materials were furnished by the hospital exchange and welfare organizations, a victrola and piano player were provided, and the recreational committee furnished refreshments and entertainment from time to time. The corridor leading to this building was inclosed to protect the patients from undue exposure. The use of this two-story ward for reconstruction work for ambulatory patients eliminated a great deal of confusion and many objectionable features from the sick wards. However, it was necessary to carry on some ward work for those patients who were not able to walk or propel themselves in invalid chairs. This necessitated continuing reconstruction work among the bed patients, but on a much smaller scale, and included not only those in general wards but in the psychopathic and tuberculosis wards as well.

The occupational therapy for patients who were permitted to leave their wards consisted of the following activities: Woodworking, toy making, basketry, metal working, block printing, sketching, poster making, bookbinding, leather work, weaving, and plastic art. The work was continuous and the teaching staff comprised a group of efficient instructors in the arts mentioned.

Occupational therapy for patients in the wards consisted of the following activities: Bead work, weaving, leather work, and macramé.

The educational work was instituted to provide every possible course for which there was a need. Several members of the teaching staff gave their entire time to helping the men to decide correctly as to what work was most worth while for them after reentering civil life. The classes met at 8.30, 9.30, 10.30 a.m., 1, 2, and 3 p. m., each day except Sunday. The usual period was 40 minutes with 15 minutes at the end for individual help. Some of the shop and study classes extended over a longer time. Ward classes were independent of the general schedule. The course given covered commercial art, academic subjects, shopwork (including electricity, elementary electrical engineering, automotive features, farm machinery), commercial subjects (including bookkeeping, accounting, auditing, commercial geography, shorthand, and typewriting), and agriculture.

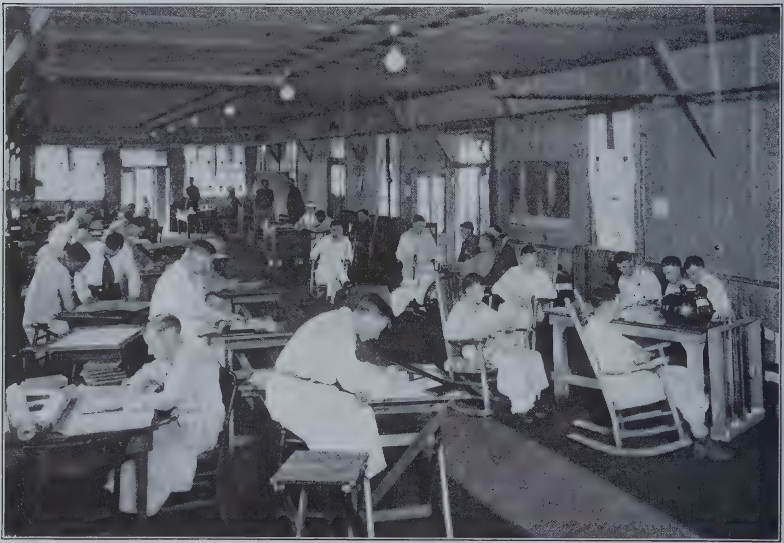


FIG. 84.—Ward class in physical reconstruction, Base Hospital, Camp Grant.

No man was retained for courses after he had become physically ready for discharge from the hospital, except after arrangements had been made on his own request. On discharge each student was given a certificate stating the number and kinds of credits that he had earned. A credit represented two weeks of satisfactory work in a course, and was of value in planning further educational work under the Federal Vocational Guidance Board.

RECREATION.

The policy of the commanding officer of the hospital was to further properly conducted recreation in moderation. With this in view, practically every entertainment was outlined and approved by him before any steps were taken to put it into effect, and practically every entertainment was attended by him with a view to studying it for future use and for the purpose of seeing that all persons conducted themselves with decorum.

From the very beginning no social relationship was permitted between the nurses and enlisted men, and entertainments were given for officers and nurses, the enlisted men and patients. The entertainments for ambulatory patients were of two kinds—those for patients able to dance; and those, including such games as cards and checkers, for patients with injured legs. Ward entertainments, such as victrola concerts, moving pictures, singing, musicales, and games, were given, but victrolas were not kept constantly in wards because of the noise and disturbance that continuous playing would create. The duration and type of ward entertainments were made to conform with the sickest patients in the ward. Dancing was the favorite form of entertainment for the nurses, and the first and third Tuesday evenings were set aside for graduate nurses, the second and fourth Friday evenings for student nurses. The first and third Thursday evenings were for the detachment, Medical Department, while on every Monday evening parties were given for convalescent patients. These entertainments were held in the Red Cross Convalescent House; the hospital band furnished the music; and the refreshments were provided from the general mess. The nurses were permitted to invite officers from the entire camp personnel. Young lady guests to the entertainments for the Medical Department detachment were obtained through the Patriotic League of Rockford or through the Young Women's Christian Association.

Besides the regular entertainments, special entertainments were given on all appropriate occasions such as Halloween, Thanksgiving, Christmas, and New Year's Day.

The entertainments for the Medical Department detachment were alternately dances and smokers. It was found that about one-third of the enlisted men attended the dances and practically all of them the smokers. The smokers were divided into two parts. The first part was a vaudeville performance in the Red Cross Convalescent House; the second part was a supper, with music and monologues, in the general mess. It was noted that, though many arrangements were made and a certain amount of money expended, unless there was some person who was especially trained to conduct the parties they were frequently unsuccessful.

In the spring of 1919, a country cottage was secured at the junction of Rock and Kishwaukee Rivers, about three and one-half miles from the hospital, in a grove on a bluff overlooking the river. It was electric lighted and had a capacity of about 15 people. This capacity was augmented by means of tents, which were floored and electric lighted, to accommodate 50 people. The cottage was used alternately by the officers and their families, the nurses, or by the enlisted men, one week being given to each. Large tables were built outdoors and a detail of enlisted men was assigned to do the major portion of the work. All persons, however, were required to assist in keeping the grounds clean and taking care of the quarters and tables. During the week one or more special entertainments were given and the entire personnel, or officers, nurses, or enlisted men, were invited to spend the evening. Such entertainments as corn roasts, barbecues, and cotillions were given. Hammocks, swings, boats, bathing suits, fishing apparatus, and many forms of games were provided for the amusement of the cottage occupants. Each nurse was given three days off duty, and each enlisted man was given 24 hours off duty, to spend at the cottage. An officer was kept at the cottage at all times and when there were ladies present a chaperon was provided.

FIG. 85.—Cottage used by the hospital personnel for outing, Base Hospital, Camp Grant.

THE HOSPITAL BAND.

Although there were several military bands in the camp, it was difficult to obtain them for use at the hospital, and it was thought advisable to drill and train a band solely for the hospital. Authorization was requested to organize a 28-piece band on the basis of bands of this size for Infantry regiments. This was approved, and in the spring of 1918 all the enlisted men who possessed any knowledge of music were requested to meet at the chapel with a view to organizing a military band. A complete set of instruments was purchased and the band leader of one of the Infantry regiments offered his services in training the new band. Daily rehearsals were held; and with the acquisition of several experienced musicians a creditable band was soon obtained, so that in about three weeks after its organization it was playing at retreat and in six weeks accompanied the hospital nurses to Chicago and paraded them in a large Red Cross drive. The organization rapidly improved in efficiency and was frequently called upon to furnish music in the surrounding towns. An orchestra was organized from the band and furnished music for practically all of the entertainments given for the personnel and patients of the hospital. The band participated in every Liberty Loan drive and all other large patriotic drives that were made by the hospital organization.

During the summer of 1918, drill of the personnel was held daily, the music for which was furnished by the hospital band. It proved a great stimulus to enthusiasm and made it possible to conduct drills daily without apparent fatigue to the enlisted men.

Improvement in efficiency was continuous until the band came to be looked upon as one of the best at Camp Grant. It was not possible to have a commissioned officer as director, but the leader was promoted through consecutive grades until he reached that of hospital sergeant. Noncommissioned officers were appointed in the band in conformity, as nearly as practicable, with Infantry organizations. This was necessary to hold the musicians, as the various musical organizations of the camp were continually trying to get the better musicians transferred away from the hospital band. The organization remained intact until the 7th of July, 1919, when it was discharged as a group.

WELFARE ORGANIZATIONS.

During the early period of the hospital's existence everyone was too busy to give thought to any form of recreation, and it was not until about the time of the signing of the armistice that recreational problems could be considered. The welfare organizations, namely, the Red Cross, Young Men's Christian Association, Knights of Columbus, and the Jewish Welfare Board, were represented at this hospital from about the beginning. The War Camp Community Service entered into the activities during the fall of 1918, and the Salvation Army frequently offered its services, but there was no place that this organization could take without overlapping the activities of some other organization.

In so far as the hospital was concerned, the Red Cross was by far the most active. They had no representative at the hospital until about February, 1918, but the field secretaries frequently visited the hospital and distributed such articles as sweaters, caps, chest protectors, and socks. They offered to do anything that the commanding officer would suggest for the improvement of the hospital, within their limitations. The Young Men's Christian Association confined its activities during the years of 1917 and 1918, almost exclusively to visiting the wards and distributing stamps and stationery, while the Knights of Columbus activities were restricted to religious lines.

About February, 1918, the Red Cross placed a representative at the hospital to work under the jurisdiction of the commanding officer, to provide means of writing letters for patients who were too sick or whose disabilities were such as to prevent writing. The hospital furnished this home service section of the Red Cross with a daily list of seriously sick patients in the hospital. A Red Cross representative visited each ward and wrote any letters that the patients desired to have written for them. These letters were all stamped with the Red Cross and censored by one of the officers of the hospital personnel.

After the signing of the armistice, and after the arrival of overseas patients in December, 1918, there was a real need for recreational work. The personnel became restless with the desire to return to their homes, and the patients from overseas were disorderly, undisciplined, and frequently defiant of military law. It was quite evident that a crisis was at hand unless the root of the evil could be detected and corrected.

Under date of December 6, 1918, the Surgeon General promulgated a bulletin outlining the various recreational activities for hospitals. In this bulletin there was a statement to the effect that the Red Cross would furnish a recreational officer to take charge of its activities; that the recreational officer would work under the chief educational officer; and all welfare organizations would work under the Red Cross recreational officer. Because of the increase in the size of the Red Cross organization at this hospital it was necessary to move their office from the administration building to the Red Cross Convalescent House. This was done at the time the first recreational officer reported for duty. Instead of placing this Red Cross recreational officer in entire control, a recreational committee was organized with the chaplain as chairman, the Red Cross representative as first assistant, and the social director for nurses and the band director as other assistants. This committee was given a tentative outline to follow. The committee did not work harmoniously, as the conduct of the chaplain in general was such that it was necessary to recommend his discharge from the Army. The Red Cross recreational officer was then placed in charge. Entertainments were given for the patients, officers, nurses, and enlisted men, but the hospital bore the expenses and planned practically all the details.

The number of patients and personnel had considerably increased and the problem of their entertainment was growing more extensive and complex. The various welfare organizations were working in the hospital without very definite outline and their work was constantly overlapping. As it was obvious that a civilian could not carry on the recreational activities harmoniously with the requirements of the commanding officer and in such a way as not to interfere with the running of the hospital, the entire recreational activities were reorganized, an officer of the hospital was placed in charge, and each welfare organization supplied a member to represent it on the recreational committee. Meetings were held once a week at which various recreational problems were discussed. Certain phases of the work were assigned to definite organizations upon their approval, each organization being required to make a written weekly report covering its activities. These reports were consolidated and sent to the commanding officer of the hospital for his approval. Any new line of work required the commanding officer's approval before it was placed in effect.

It was never possible to make the welfare organizations correctly visualize the military view of recreational work. They assumed that the larger the number of post cards, sheets of paper, and other supplies they gave away, the more important their work. They took the view that every man should have exactly what he wanted whenever he wanted it; that a visitor should be allowed in wards at all times; that all military discipline was wrong if it interfered with the patients' wishes; and that the treatment of patients should be secondary to the recreational work. They wished to place talking machines and other musical instruments in all wards of the hospital, and it was difficult to make them understand that the conduct of the wards must necessarily be based upon the sickest patients therein. To meet the needs of the patients, victrolas were obtained on movable stands and a victrola concert was given every evening for about 20 minutes, under the supervision of the head nurse of the ward. These concerts were especially planned and the victrolas were removed if any patient showed signs of being disturbed by the noise. Moving pictures were given in the ward in a similar way. The welfare organizations conducted the concerts and moving pictures.

The Young Men's Christian Association had two secretaries on duty at the hospital for practically the whole of its existence. These men caused no trouble whatever in the hospital and their efforts seemed to be directed largely to distributing stationery and selling stamps. Although they assumed certain obligations on athletics for the detachment, little or nothing was ever accomplished by them and practically all athletic work was carried on at the expense of the hospital exchange and under the supervision of the hospital athletic officer. The Young Men's Christian Association representatives were always willing, but seemed to be greatly handicapped by the need of funds. The association had a hut located near the hospital but it was not made use of by the hospital personnel to any extent.

The Knights of Columbus had a hut adjacent to the hospital, and its local organization accomplished much in the provision of entertainments for the patients during the year of 1919. Regularly they had moving pictures and parties, and their building was maintained as the soldiers' club room.

The Red Cross Convalescent House was at all times under the immediate jurisdiction of the commanding officer of the hospital. A noncommissioned officer was detailed in charge of it and the policing of it was done by the members of the hospital detachment. An information bureau was located within it and rooms were maintained for relatives of seriously sick, summoned by telegram or letter. A matron was maintained and within the building the Red Cross associate field director had his office. It was constantly required that this Red Cross building be kept clean and orderly and its conduct such that ladies could enter at all times. It was open to patients from 11 a. m. to 9 p. m. (for bathrobe patients) and to 10.30 p. m. for convalescent patients. All patients were required to remove their hats on entering the building and to refrain from smoking in its main room, a smoking room being provided in one of the wings. This Red Cross building was the only building that was maintained for visitors, and it was felt perfectly safe at all times to send ladies to it.

The American Library Association opened a library at the hospital in February, 1919. Subsequent to the arrival of the large number of overseas patients, their library was an attractive reading room and their representative visited the wards, furnishing books and other reading material to all persons desiring them. This association also assisted in the nurses' training school and in the reconstruction work.

THE HOSPITAL NEWSPAPER.

Under special authority granted by the Surgeon General in 1918, a semimonthly newspaper was started at this hospital, the first issue appearing April 1, 1919. The issues that were published from time to time were as follows:

April 1, 1919 (introductory number); April 15, 1919; May 1, 1919 (athletic number); May 15, 1919 (reconstruction number); June 1, 1919; June 15, 1919 (pictorial number); July 5, 1919 (band number); July 20, 1919; and August 1, 1919 (combined number—roster of personnel).

The publication was christened *The Silver Chev'*, this title being selected from a number of suggestions as being most typical of this hospital in view of the fact that at the time publication was begun there were no persons on duty at the hospital who had actually seen service overseas. At the time of the first appearance of the publication, overseas patients were beginning to arrive in large numbers and demobilization was constantly progressing. Due to these circumstances the most able enlisted men were fully employed on other duties and it was difficult to secure personnel to bring out the paper. This difficulty was accentuated by the fact that enlisted men anxious to be discharged feared that assignment to the paper would delay their discharge. Nevertheless, there was a creditable, progressive improvement in the hospital paper.

A degree of difficulty was experienced locally in securing adequate attention to the acutal printing of the publication, and it was necessary to go to Chicago or Milwaukee to secure satisfactory service at reasonable cost. A firm in Milwaukee was ultimately secured to publish the paper and from then on no difficulty was experienced.

Late in March, when plans for the publication were being formulated, certain of the enlisted men instituted an advertising campaign in Rockford, Ill., with very gratifying results. Advertising matter was secured to the amount of approximately $300 per calendar month (for two issues), the advertising to continue during the contemplated existence of the paper, six months from April 1, 1919. This figure, with the sale of the paper at 10 cents per copy to the members of the personnel of the hospital and to the patients, as well as to subscribers in Rockford, constituted a profit-paying income. In securing the advertising matter, however, an error was committed on the part of the enlisted force assigned to that work, in unwittingly making the statement that the probable circulation of *The Silver Chev'* would be 4,000 per issue. Furthermore, the advertising was obtained through verbal contract only. When, therefore, it became evident to the advertisers that the circulation was approximately 1,000 instead of the estimated 4,000, and that, owing to demobilization and the constantly decreasing number of patients, this circulation would decrease still further, it became impossible to retain the advertisers and some of the contracts were repudiated by the merchants who made the statement that they authorized the appearance of their advertisements for but one month.

Publication of the hospital paper was discontinued with a double number, representing the issues of July 20 and August 5, 1919, there being at that time a deficit of approximately $350.

The Silver Chev' never emerged from the experimental stage, but during its brief existence it was of distinct value to the personnel. Its financial failure, attributable to demobilization and lack of adequate supervision in its earlier stages, was more than offset by its influence in enhancing the morale of the hospital during that critical period when every organization in the camp, except the base hospital, was deriving all the benefits of demobilization.

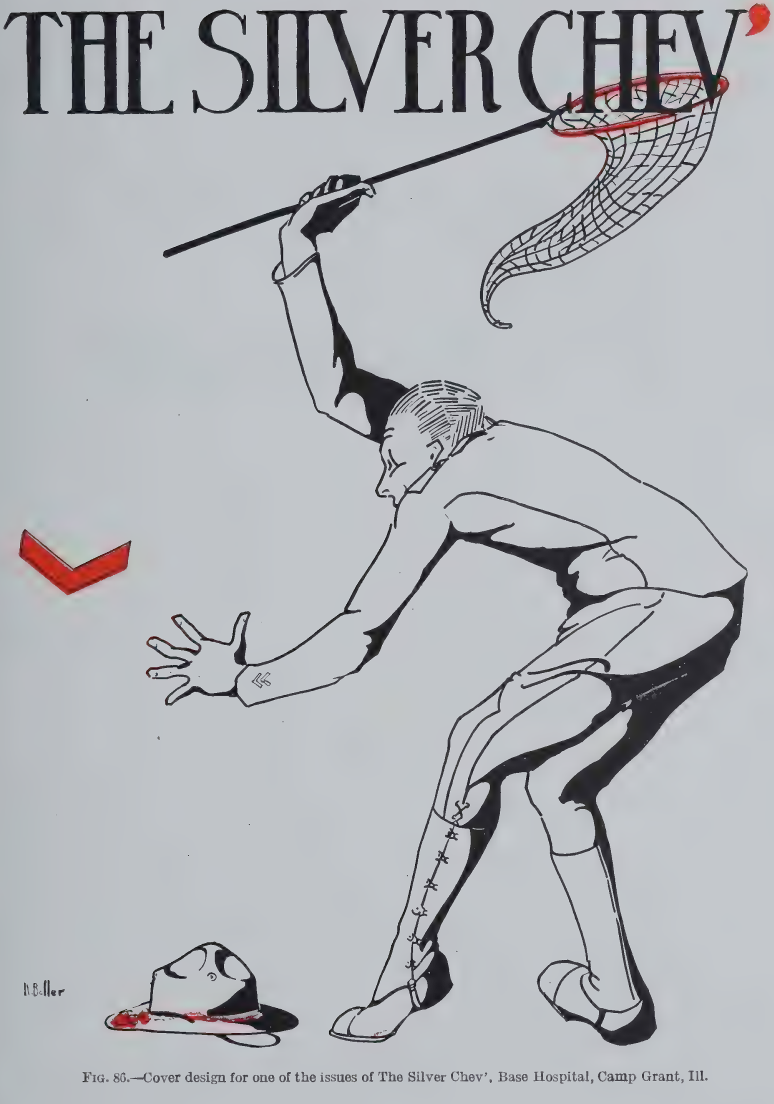
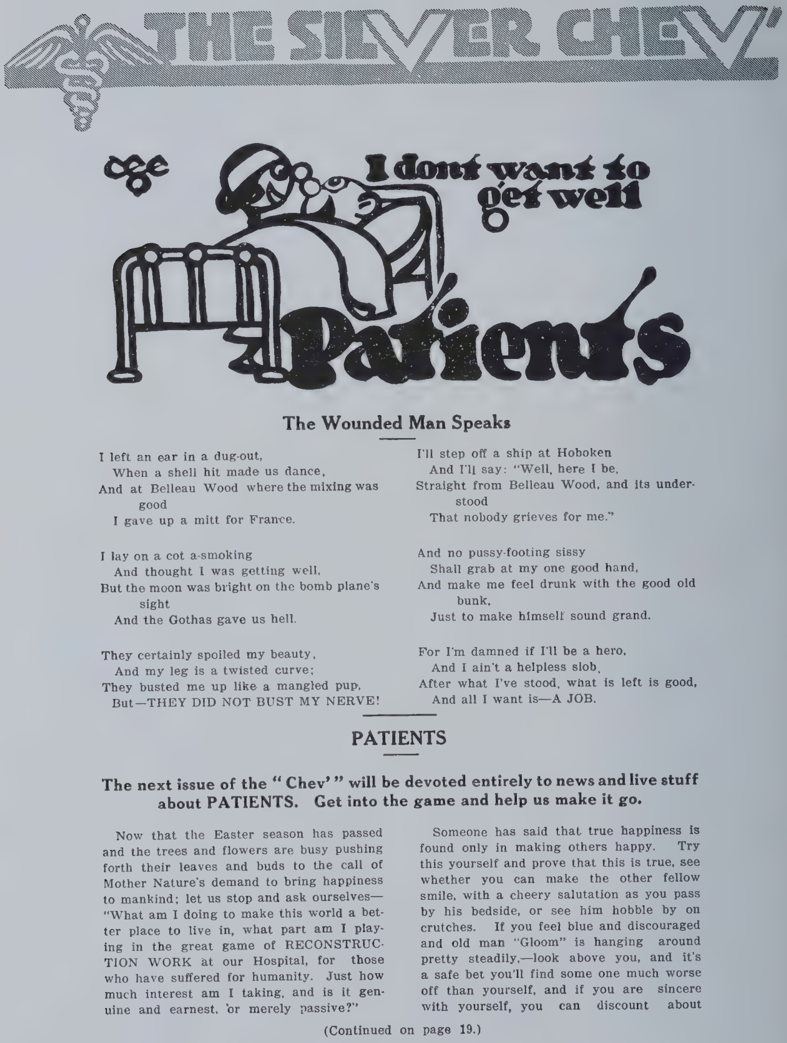


FIG. 86.—Cover design for one of the issues of The Silver Chev', Base Hospital, Camp Grant, Ill.



THE SILVER CHEV'

I dont want to get well

Patients

The Wounded Man Speaks

I left an ear in a dug-out,
  When a shell hit made us dance,
And at Belleau Wood where the mixing was good
  I gave up a mitt for France.

I lay on a cot a-smoking
  And thought I was getting well,
But the moon was bright on the bomb plane's sight
  And the Gothas gave us hell.

They certainly spoiled my beauty,
  And my leg is a twisted curve;
They busted me up like a mangled pup,
  But—THEY DID NOT BUST MY NERVE!

I'll step off a ship at Hoboken
  And I'll say: "Well, here I be,
Straight from Belleau Wood, and its understood
  That nobody grieves for me."

And no pussy-footing sissy
  Shall grab at my one good hand,
And make me feel drunk with the good old bunk,
  Just to make himself sound grand.

For I'm damned if I'll be a hero,
  And I ain't a helpless slob,
After what I've stood, what is left is good,
  And all I want is—A JOB.

PATIENTS

The next issue of the " Chev' " will be devoted entirely to news and live stuff about PATIENTS. Get into the game and help us make it go.

Now that the Easter season has passed and the trees and flowers are busy pushing forth their leaves and buds to the call of Mother Nature's demand to bring happiness to mankind; let us stop and ask ourselves—"What am I doing to make this world a better place to live in, what part am I playing in the great game of RECONSTRUCTION WORK at our Hospital, for those who have suffered for humanity. Just how much interest am I taking, and is it genuine and earnest, or merely passive?"

Someone has said that true happiness is found only in making others happy. Try this yourself and prove that this is true, see whether you can make the other fellow smile, with a cheery salutation as you pass by his bedside, or see him hobble by on crutches. If you feel blue and discouraged and old man "Gloom" is hanging around pretty steadily,—look above you, and it's a safe bet you'll find some one much worse off than yourself, and if you are sincere with yourself, you can discount about

(Continued on page 19.)

Fig. 87.—Specimen page of *The Silver Chev'*.

Statistical data, United States Army Base Hospital, Camp Grant, Rockford, Ill., from September, 1917, to July, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate Number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	9	38	165	0	212	111	2	8					3	88		1,332	
October	88	32	515		635	337	4	41					1	252			
November	252	33	582		867	536	3	19				1	9	299		9,393	
December	299	64	801	7	1,171	617	3	66					28	457		11,503	
1918.																	
January	457	113	1,414	15	1,999	732	11	73				46	300	837		21,046	
February	837	91	1,045	7	1,980	733	16	54				118	170	889		21,626	
March	689	68	1,023	5	1,785	1,063	12	56				12	47	595		21,816	
April	595	87	1,286	5	1,973	1,096	35	24					16	802		21,135	
May	802	45	1,079	4	1,930	1,305	17	40				23	4	541		22,474	
June	541	21	908	2	1,472	895	5	27				19	3	523		14,852	
July	523	33	1,312	1	1,869	1,270	6	25			1	12	9	546		17,538	
August	546	41	1,083	3	1,673	1,139	11	37	2			10	2	472		16,079	
September	472	344	5,779	7	6,602	2,845	43	30				10	4	3,670		32,352	
October	3,670	226	3,868	10	7,774	5,239	1,024	13				18	8	1,472		65,012	
November	1,472	66	902	3	2,443	1,635	24	23				1		760		30,480	
December	760	68	2,141	10	2,979	1,888	28	9				15	7	1,032		23,257	
1919.																	
January	1,032	84	2,522	5	3,643	2,443	18	6				20	15	1,141		32,698	
February	1,141	87	2,044	4	3,276	1,895	15	14				18	47	1,287		34,397	
March	1,287	105	1,808	9	3,209	1,990	9	8				141	39	1,022		33,789	
April	1,022	78	1,686	2	2,788	1,897	7	14				81	29	760		27,455	
May	760	46	1,695	13	2,514	1,706	4	54				33	32	685		24,362	
June	685	27	373	5	1,090	473	2	144				54	27	390		15,450	

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1917.				
September	1			1
October	0			0
November	215			215
December	215			215
1918.				
January	185			185
February	191			191
March	196			196

PERSONNEL ON DUTY.[b]

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.		
1917.									
September					244				
October	43	2	2	47	249			40	
November	63	2	2	67	273			50	1
December	76	1	1	78	277			50	
1918.									
January	72	2	1	75	272	16	288	71	
February	65	2	1	68	274	16	290	79	
March	74	2	1	77	300	20	320	79	
April	86	1	1	88	529	20	549	88	
May	82	2	2	86	612	20	632	108	
June	67	3	2	72	579	20	599	105	1
July	78	3	3	84	647	19	666	114	1
August	89	5	2	96	496	19	515	169	1
September	79	6	2	87	741	18	759	125	1
October	96	7	2	105	846	18	864	211	2
November	101	7	5	113	830	18	848	250	
December	82	8	3	93	803	18	821	132	
1919.									
January	75		2	77	810	18	828	100	
February	79		7	86	816	17	833	95	
March	70	1	11	82	878	17	895	92	
April	66		11	77	790		790	82	
May	61		10	71	608		608	73	
June	40		10	50	455		455	46	

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[a] From A. G. O. records.

[b] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office, (name of hospital).

CHAPTER XV.

THE GENERAL HOSPITAL (PERMANENT).

WALTER REED GENERAL HOSPITAL, WASHINGTON, D. C.[a]

PRE-WAR PERIOD.

Walter Reed General Hospital is a monument to the memory of Maj. Walter Reed, Medical Corps, United States Army, whose biography is so rich in records of research work of far-reaching consequences. It is also an unfinished monument to the Medical Department, whose aim it is ultimately to make it not only an adequately-sized group of attractive buildings, permanently constructed and equipped for the definitive care of all classes of patients, but an educational center where will be located technical schools for the advancement of knowledge of the members of the different branches of the Medical Department. This effort to have established in the city of Washington a permanent general hospital, and in connection with it a training school, germinated during the early days of the Civil War.

In the Annual Report of the Surgeon General of the Army, 1862, a recommendation was made to the Secretary of War that a permanent general hospital be established in Washington, and in connection therewith, the establishment of an "Army Medical School, in which medical cadets and others seeking admission to the corps could receive such special instruction as would better fit them for commissions." This recommendation came to naught. In 1893, however, Surgeon General Sternberg succeeded in accomplishing the establishment of the Army Medical School in Washington; but it was not until 1898, as an incidence of the Spanish-American War, that the organization of a permanent general hospital in Washington was effected. General Orders, No. 140, War Department, September 8, 1898, designated the post hospital, Washington Barracks, D. C., a general hospital, and placed it under the exclusive control of the Surgeon General of the Army.

While this was a step forward in securing a permanent Army general hospital in the city of Washington, a step which demonstrated the great advantage of such an institution, the building in itself was in no way adequate and it was necessary to add one-story ward buildings of a temporary character. These temporary buildings rapidly deteriorated and there was a ceaseless and untiring effort on the part of the Medical Department to secure a more permanent hospital of sufficient capacity to meet the requirements of the Army during peace times, with reasonable possibilities for expansion during war. Certain conditions arising in 1903 rendered the situation acute. In the Annual Report of the Surgeon General, United States Army, for the fiscal year ending June 30, 1903, this statement appears:

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[a] The statements of fact appearing herein are based on the "History, Walter Reed General Hospital, Washington, D. C.," by Capt. H. C. Dean, M. A. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

> The work of construction at Washington Barracks, now well under way, will render the removal of the general hospital imperative in the near future. Plans for the War College and Engineer School contemplate a new building on the present site of the hospital. It has been proposed to move the present building and use it as a post hospital during the construction work, and for the purpose it is neither too large nor too good.
>
> It is inadequate in size for a general hospital, however, and, being largely built of timber it has shrunk and settled until is is no longer possible to maintain it in the perfect sanitary condition absolutely necessary where aseptic operations are to be performed.
>
> The building is about 10 years old and cost about $40,000. It is always crowded, so that nurses must be lodged outside, and there are no private rooms for officers or special cases. The location is not suitable, even if it were possible to retain the site, as the ground is low and the heat excessive in summer.
>
> The Company of Instruction of the Hospital Corps is quartered in temporary wooden pavilions in bad repair, which were built during the war with Spain and are now worthless for any purpose.
>
> I repeat most earnestly my previous recommendation that a general hospital of sufficient size and perfect in every respect be built in the District of Columbia for the following purposes:
>
> First. Treatment of cases needing the services of specialists, surgical or other observation, and treatment of officers incapacitated for service prior to their appearance before retiring or examining boards.
>
> Second. Training enlisted men of the Hospital Corps in nursing and military duties.
>
> Third. Instruction at the Army Medical School in military surgery, hospital administration, Hospital Corps drill, and establishment of field hospitals.
>
> Fourth. To serve as a nucleus around which, in time of war, temporary wards may be erected without delay to any extent and at minimum expense.

The recommendation of the Surgeon General was followed closely by official action looking to its realization. On October 12, 1903, The Adjutant General of the Army appointed a board of officers "To meet as soon as practicable for the purpose of ascertaining the most suitable location within the District of Columbia for the erection of a general hospital." Subsequent to the receipt of the order the board met at different times and its individual members carefully scanned the District for land which might be available.

In deciding upon the suitability of a site the board was governed by the use to which the hospital was to be put, and these uses dictated the following requirements: That the site be well drained, that it have water and gas supply, and an accessible sewer, if possible, and that it be situated on a good road, accessible to street cars and near a railroad so that sick might be transferred directly to the hospital without being carried to the city. This combination of requirements limited the choice of locations, and from 32 available tracts the less desirable were gradually eliminated until the judgment of the board narrowed to the final selection of the "Cameron tract." This tract had an elevated, suburban situation, near the northern boundary of the District, two street car connections with the city of Washington and direct communications with the cars running near the Army Medical School, and was less than a mile removed from a station of the metropolitan branch of the Baltimore & Ohio Railroad.

The purchase of this site, as recommended by the board, was accomplished on May 20, 1905, the tract containing 43.27 acres at $2,311.07 per acre, the total cost being $100,000. Funds for the purchase were made available by act of Congress approved March 3, 1905, which appropriated $100,000 to be immediately available, and provided that the "total cost of said hospital, including site therefor, * * * shall not exceed the sum of $300,000."

The tract thus purchased was announced as a military reservation May 2, 1906, in War Department general orders of that date, the name of the hospital having been previously announced in General Orders No. 172, War Department, October 18, 1905. Under the urgency deficiency bill approved by the President February 27, 1906, there was made available the sum of $200,000 for the building of a general hospital.

The main building, known as building No. 1, was completed December 4, 1908. It was of brick, its dimensions being 192 by 48 feet. Its total floor area was 27,648 square feet. The foundation was concrete and there were a basement, three floors, and an attic, with a tin roof. The building was heated by hot water, lighted by electricity, and provided with water and sewer connections. It was intended primarily for administrative purposes principally, and its bed capacity was only 65. On the first floor space was provided for the following activities: The commanding officer, adjutant, clerks, first sergeant, reception hall, resident physician, eye, ear, and throat, officer of the day, library, reception room, laboratory, etc.; on the second floor were one large ward and several small ones, the prison ward, reception room, rooms for ward masters, toilets, etc.; on the third floor were the operating suite, recovery rooms, dressing rooms, and several small wards.

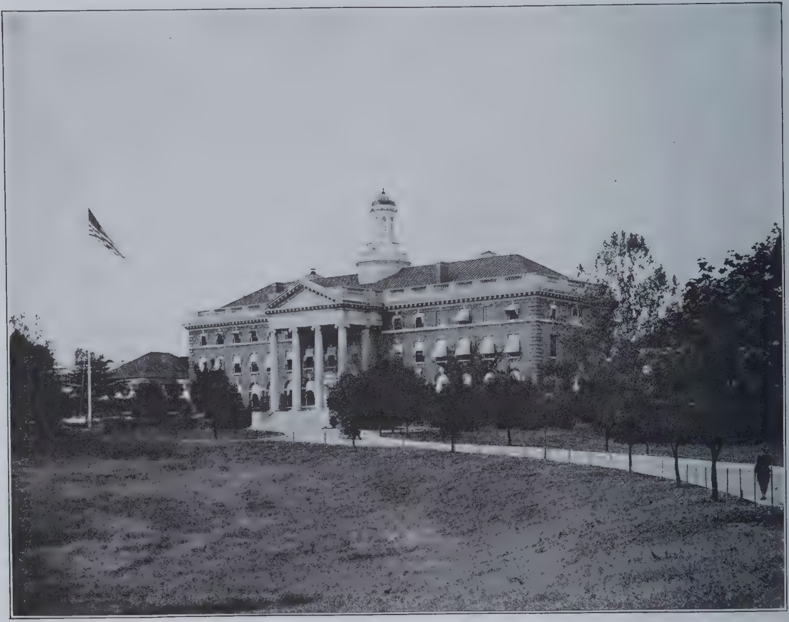

Fig. 88.—Administration building, Walter Reed General Hospital.

The original construction cost of the main building was $197,860, but additional cost has been incurred by improvements and additions as follows: In 1909, $1,985; 1910, $705,000; and in 1912, $106,540. The cost of repairs made to March 1, 1918, a period covering practically the first 10 years of the life of the building, totaled $9,204.37.

Building No. 2, a double set of hospital stewards' quarters, was completed April 18, 1908. It was of brick, with a concrete foundation; and contained a basement, two floors, and an attic, with slate roof.

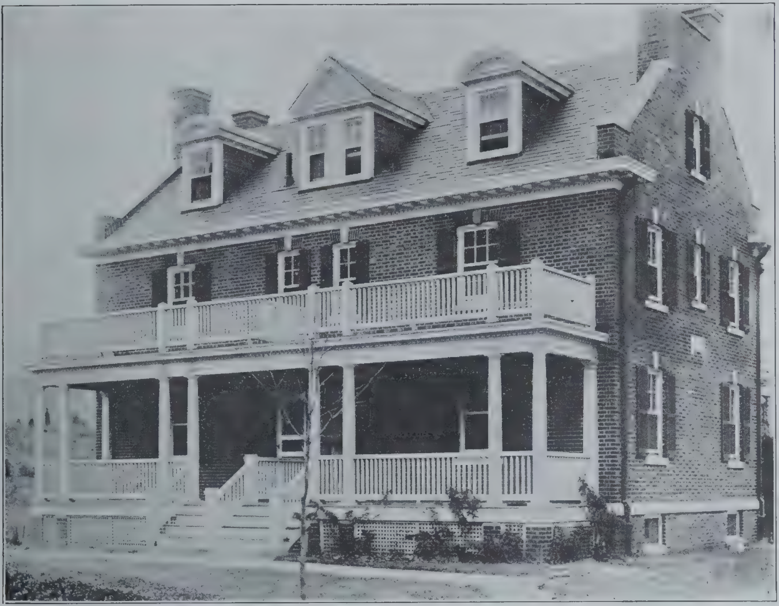

FIG. 89.—Hospital stewards' quarters, Walter Reed General Hospital.

Building No. 3 was similar to No. 2 in construction and use to which it was put.

Building No. 4 was a storehouse for quartermaster and commissary supplies.

Building No. 5 was a stable; and No. 6 was a wagon shed and garage, with capacity for 12 animal-drawn vehicles in addition to three automobiles.

Building No. 7, a barracks for the enlisted personnel, had a capacity of 200 men. This building was completed March 8, 1910. It was of brick with concrete foundation and a roof of slate. Its dimensions were 137 by 119 feet, with total floor area of 21,230 square feet. It was heated by steam and lighted by electricity. Water and sewer connections were provided.

Building No. 8 was a captains' set of quarters and was completed March 8, 1910. This building was likewise of brick with concrete foundation and slate roof. Its dimensions were 33 feet by 46 feet 5 inches, and its total floor area 3, 812 square feet; it was heated by steam, lighted by electricity, and was provided with water and sewer connections. The original cost of this building was $12,757.

Building No. 9 was completed March 8, 1910, and was similar to building No. 8.

Building No. 11 was the mortuary.

Building No. 12, the Army Nurse Corps home, with capacity of 20 nurses, was completed April 9, 1911. It was of brick with concrete foundation, and roof of slate; it was heated by hot water, lighted by electricity, and provided with water and sewer connection. The original construction cost of this building was $24,998.

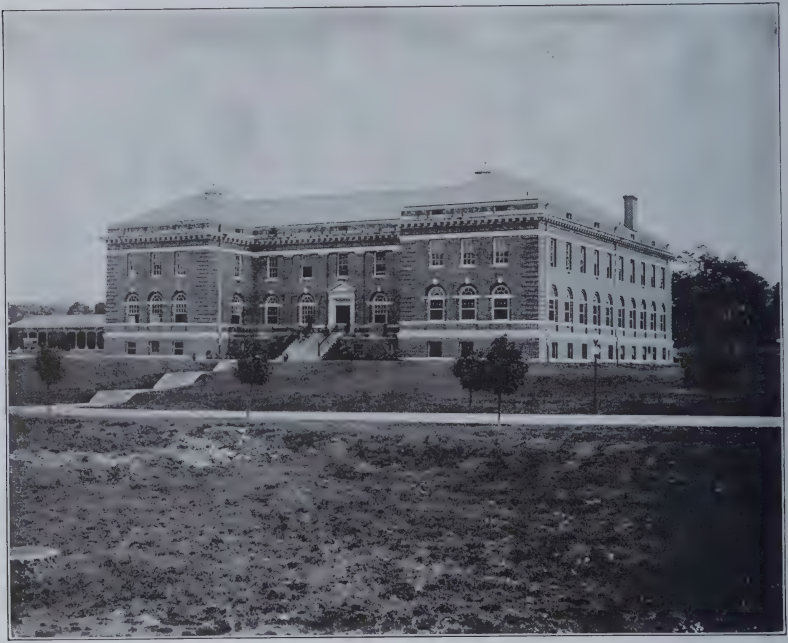

FIG. 90.—Detachment barracks, Walter Reed General Hospital.

Building No. 13, the isolation hospital, with a capacity of 12 beds, was completed on November 15, 1913. It was constructed of brick with concrete foundation and a roof of slate. The total cost of its original construction was $22,302.24.

On April 6, 1904, ward A, the west addition to the main building (building No. 1) was completed. It was of brick construction to correspond with the main building, and had concrete foundation and a tin roof. The dimensions of this west wing were 43 by 54 feet, and the corridor connecting it with the main building was 17 feet by 34 feet 6 inches. The total floor area, including the corridor, was 2,380 square feet. This addition had a basement and one floor. In the basement there were a recreation room, toilet, closet, corridor, and stair hall. On the first floor there was a ward, 51 by 24 by 13 feet. The cost of the construction of this wing was $23,158.

A second addition to the main building was completed December 28, 1914. This addition, joined to the rear of the main building, was the kitchen and mess, and was constructed of material similar to that of the parent building. Its dimensions were 28 by 37 feet and 28 by 63 feet. There were three floors and a basement. The basement was used for the storage and preparation of food; the first floor contained the dining hall; and on the second and third floors the rooms were used as wards. The construction cost of the building was $43,258.

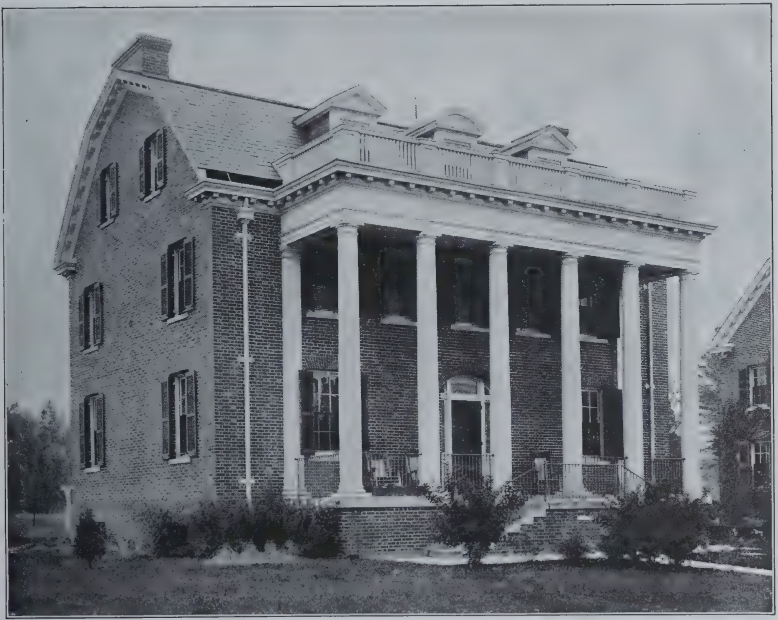

FIG 91.—Officers' quarters, Walter Reed General Hospital

On May 8, 1915, ward B, the east addition to the main building was completed. It was similar in size and appearance to the west addition, and was used for wards. In the basement were the wards for the insane.

On April 26, 1915, the addition to the nurses' home (building No. 12), with a capacity of six beds, was completed. The original construction cost of this addition was $18,729.

On May 1, 1909, when there were only the main building and the two double sets of hospital stewards' quarters, the hospital opened for the reception of patients, in compliance with General Orders No. 702, War Department, April 14, 1909. The post return for May, 1909, shows that there were on duty at the opening, 5 officers, 62 enlisted men of the Hospital Corps and 3 civilian employees—a carpenter, an engineer, and a cook. There was also a matron.

Company C of the Hospital Corps, representing 1 officer and 82 enlisted men, was attached to the hospital for quarters and rations. That the hospital began to function promptly is indicated by the post return record of the patients remaining at Walter Reed on May 1, 1909, the end of the first month of activity. At that time 5 officers and 11 enlisted men, 2 retired enlisted men and 1 civilian were under treatment at the hospital.

Members of the Army Nurse Corps were first assigned to the hospital in June, 1911, after completion of the nurses' quarters. One chief nurse and three nurses joined for duty on June 21, 1911, and a fourth nurse joined on June 24. Their assignment to the hospital facilitated the admission of female patients, who, prior to that date, had been dependent upon the matron for nurse's care.

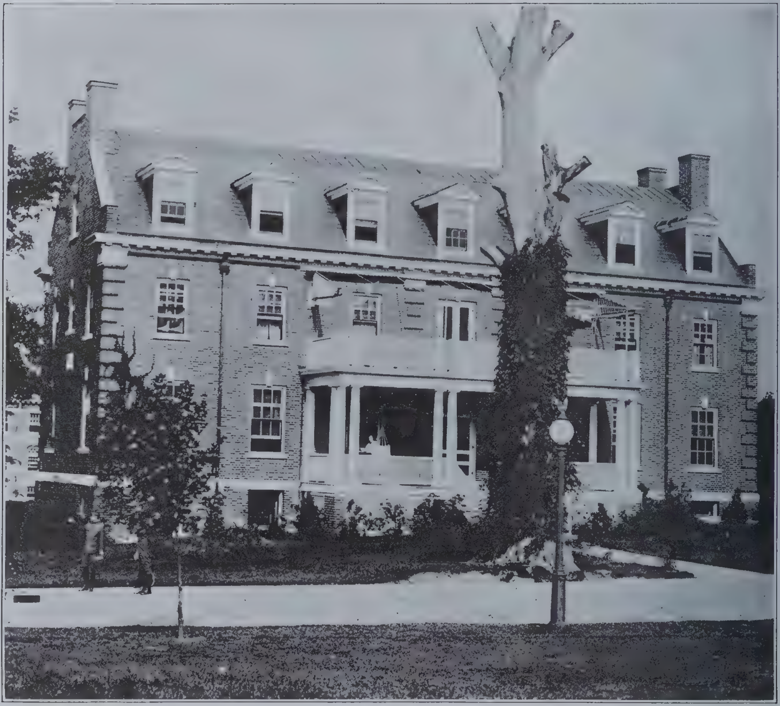

FIG 92.—Nurses' quarters, Walter Reed General Hospital.

The annual reports for the years preceding 1917 indicate steady progress in the work at Walter Reed General Hospital and marked improvement in the physical aspect of the buildings and grounds. The register shows that up to April 6, 1917, the day on which war was declared, 7,017 cases had been admitted to Walter Reed.

The post return for April, 1917, gives the following personnel record for that month: On duty—15 officers, 145 enlisted men of the Medical Department and 13 enlisted men of the Quartermaster Corps; patients—19 officers, 89 enlisted men, 3 retired officers and enlisted men and 10 members of the National Guard.

The administrative system at that time was comparatively simple. There were one commanding officer, one chief of the medical service (who, in addition, performed the duties of the summary court officer), one chief of the surgical service, one chief of the eye, ear, nose and throat service (who also performed the duties of recruiting officer and acted as assistant professor of ophthalmology at the Army Medical School, Washington), one officer who performed the duties of post quartermaster, post ordnance officer, signal and medical property officer, and the commanding officer of the detachment, Medical Department and Quartermaster Corps, one officer who acted as adjutant, registrar, and mess officer, and one officer who performed the duties of pathologist and roentgenologist. One dental officer was on duty and gave dental service to the entire command. The additional officers on duty were assigned as assistants in the various departments and performed such additional duties as members of boards, post exchange officer, athletic officer, and librarian.

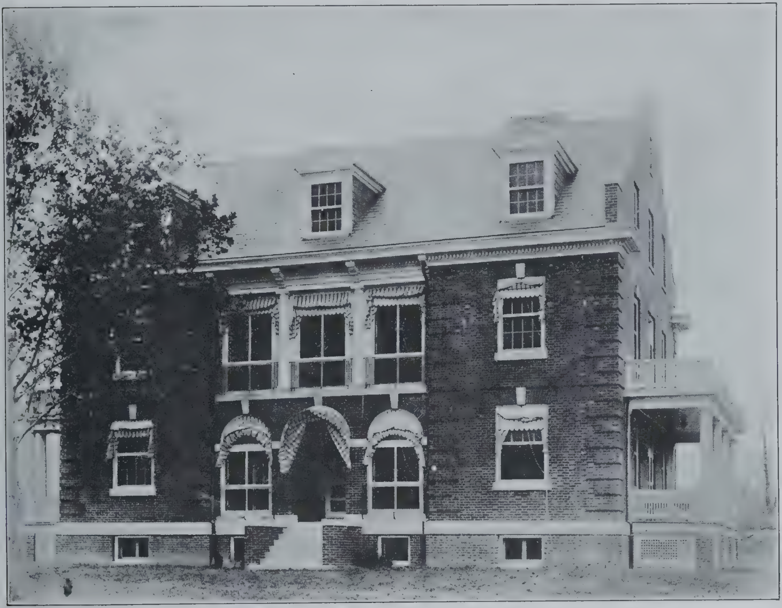

FIG. 93.—Isolation building, Walter Reed General Hospital.

HISTORY SUBSEQUENT TO BEGINNING OF WORLD WAR.

PHYSICAL CHARACTERISTICS.

Geographic location—Walter Reed General Hospital is located at Takoma Park near the northern limit of the District of Columbia. It may be reached by street car in one hour's time from the center of the city of Washington. A main highway, Sixteenth Street, likewise connects it with the center of the city, extending directly from the Executive Mansion, the White House, through an attractive part of Washington to the western entrance to the hospital grounds.

Terrain.—The site of the hospital possesses a varied terrain. Portions of the grounds are gently rolling and admirably suited to building purposes; other portions are roughly hilly and not adaptable to the orderly arrangement of large numbers of temporary buildings in regular rows. The grades for the necessary roads are moderately easy. Serpentine curves of the main roads through the grounds, which are covered with a wide variety of well spaced trees, furnish a vista both parklike and picturesque. The elevation of the site averages 300 feet.

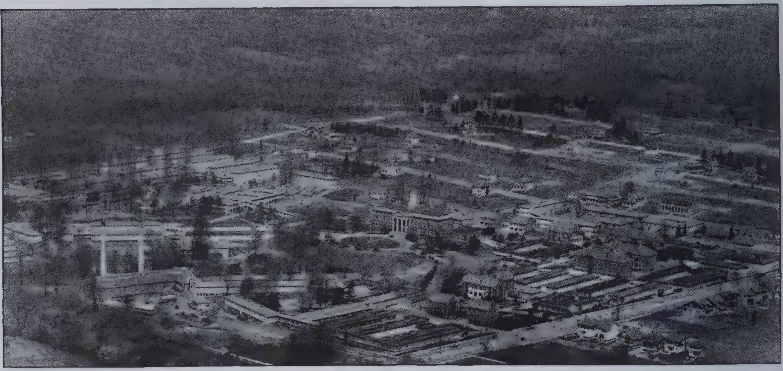

FIG. 94.—Aerophotograph, Walter Reed General Hospital.

Soil.—The tract is situated where the Coastal Plain and the Piedmont Plateau meet. The resultant soil is diversified in character: it is gravelly and varies in color from grayish yellow to yellowish gray. The subsoil is composed of partially weathered Piedmont Rock and is reddish yellow to brownish. The physical characteristics of both soil and subsoil are such that moisture is moderately well conserved except during unusually dry periods.

Climate.—The climate is moderate throughout the year. The winters are usually relatively short and "open"; the summers are proportionately long. The prevailing winds (averaged for 20 years) are northwest for January, February, March and April; south for May, June, July, August and September; and northwest for October, November and December.

Roads.—Within the hospital grounds the roads are of well-kept concrete, bordered by side walks of similar material.

Hospital environment.—The sanitary status of the surroundings of the hospital area is that of a well-managed suburban residential section, and is entirely satisfactory. Asphalt streets, maintained by the city of Washington, extend to the entrance to the hospital grounds.

Water supply.—Water is supplied by the city of Washington, its original source being the Potomac River about 22 miles up stream. It is treated in sand filtration beds before it enters the city system.

Sewerage.—The sewage of the hospital is disposed of through an adequate sewerage system, which becomes a part of that of the city of Washington. Surface drainage is likewise disposed of through the city system.

Garbage disposal.—Garbage is stored in covered receptacles and is removed daily, except Sunday, by contract.

WAR-TIME PHYSICAL EXPANSION.

The war emergency of 1917, necessarily assembling a number of troops in the vicinity of Washington, initiated the expansion of Walter Reed Hospital, which continued during the following three years. It will be recalled that, in his recommendation made in 1903, for the establishment of the hospital, the Surgeon General, United States Army, had contemplated such a war-time expansion in that provision of his report which urged that the hospital "serve as a nucleus around which, in time of war, temporary wards may be erected without delay to any extent and at minimum expense."

In addition to its functions as a general Army hospital and as the post hospital for Washington Barracks, Walter Reed General Hospital now served as a post hospital for the several camps in the vicinity of Washington.

The construction of temporary buildings was commenced June 15, 1917. By the end of the year the hospital had a capacity of 950 beds, and the following buildings of the temporary groups had been completed:

Nurses' quarters: One-story frame construction, 24 by 497 feet (3 wings), used as quarters for the Army Nurse Corps (female), with accommodations for 50 nurses.

Barracks: Two-story frame construction, 93 by 111 feet, used as quarters for enlisted men, with accommodations for 250 men.

Mess hall: One-story frame construction, 25 by 157 feet, used for enlisted men's mess, with accommodations for 250 men at one sitting.

Storehouse: One-story frame construction, 73 by 137 feet, used for storage of medical supplies.

Guardhouse: One-story frame construction, 24 by 35 feet, used for confinement of prisoners. Capacity: Guards, 4; prisoners, 15.

Linen building: One-story frame construction, 24 by 70 feet, used for storage of linens.

Receiving ward: One-story frame construction, 82 by 93 feet, used for the receiving of patients, and storage of their personal effects, with accommodations for 8 patients, pending their assignment to other wards.

Ten single wards: Wards E, F, G, H, I, L, M, N, Q, and R, of one-story frame construction, 24 by 157 feet, used for the accommodation of enlisted sick. Capacity of each ward, 45. Thirty additional patients could be accommodated on the porches of each ward. (These wards were later designated as 11, 12, 13, 14, 15, 2, 31, 32, 33, and 34, respectively.)

Three double wards: A and B, C and D, J and K, of one-story frame construction, 24 by 314 feet, used for the accommodation of the enlisted sick. Capacity of each ward, 85 patients. (These wards were later designated as 1–2, 16–17, and 18–19.)

All of the above enumerated temporary buildings, erected in 1917, as will appear from the individual descriptions, were of frame construction. They were built on concrete piers, had composition roofs and wooden floors, were lighted by electricity and were provided with water and sewer connections.

In May, 1917, there was commenced the construction of a central power plant from which all temporary buildings were to be heated. As this powerhouse was not completed until the following year, the heating arrangements of such temporary buildings as were used during 1917 were necessarily of a makeshift character.

The necessity for obtaining additional land to afford ground space for the rapidly multiplying buildings became apparent and immediate. Three adjacent sections of land were accordingly purchased during 1918. On January 30, 1918, a deed recorded in liber No. 4057, folio 174, of the land records of the District of Columbia, conveyed 0.118 acre. Release and quitclaim deeds of the same property were executed on February 1, 1918, and April 18, 1918. On February 2, 1918, a deed recorded in liber No. 4057, folio 177, of the land records of the District of Columbia, conveyed 5.988 acres. Release and quitclaim deeds to this property were executed May 5, 1918. The land conveyed by the above-described deeds constituted two triangular sections. One section was bounded by Dogwood Street on the north and by Thirteenth Street on the west, while the hypothenuse of the triangle, to the southeast, lay along the northwestern boundary line of the original hospital reservation. The other section was bounded by Dahlia Street on the north and by Fourteenth Street on the west, while the hypothenuse of the triangle, to the southeast, coincided with the northwestern boundary of the original hospital reservation. On March 25, 1918, a deed recorded in liber No. 4057, folio 173, of the land records of the District of Columbia, conveyed 19.76 acres. This addition extended the northern and southern boundary lines of the original reservation west of Sixteenth Street. The above enumerated purchases, consisting of 25.966 acres, added to the original purchase of 43.27 acres, brought the total area of the reservation up to 69.136 acres.

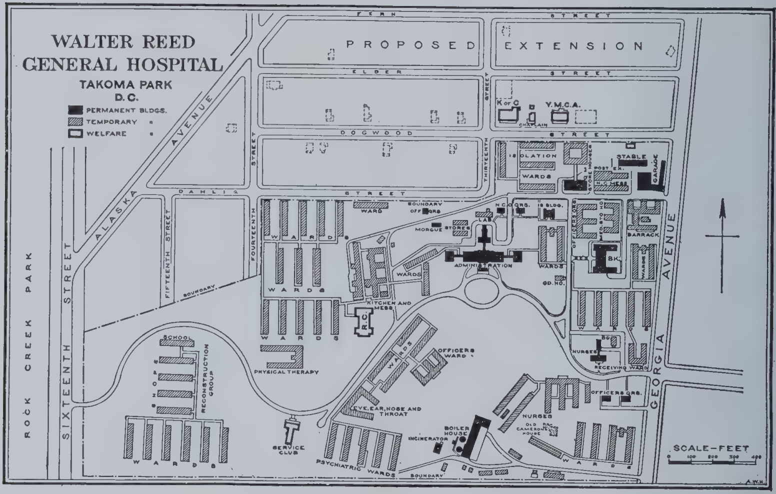

FIG. 95.

At the end of the year 1918 the annual report for the hospital shows a capacity of 2,500 beds, and in the same report the record of the completion of temporary buildings, which includes the construction for the years 1917 and 1918, stands as follows:

Nurses' quarters: Three 1-story frame constructions, 24 by 497 feet,[a] 24 by 217 feet, and 24 by 217 feet, used as quarters for the Army Nurse Corps (female), with accommodations for 150 nurses. (Known as nurses' homes, Nos. 2, 3, and 4, respectively.)

Barracks: Two-story frame construction, 93 by 111 feet, used as quarters for detachment, Quartermaster Corps, and Motor Transport Corps, with accommodations for about 250 men.

Quartermaster mess hall: One-story frame construction, 25 by 157 feet, used for enlisted men's mess, with accommodations for 250 men at one sitting.

Mess hall No. 2: One-story frame construction, 24 by 625 feet, used for enlisted patients' mess, with accommodations for 700 men at one sitting.

Medical Property storehouse: One-story frame construction, 24 by 261 feet,[a] used for the storage of medical supplies.

Kitchen storehouse: One-story frame construction, 24 by 70 feet, used for the storing of canned goods and other staple supplies used by the mess department.

Linen building: One-story frame construction, 24 by 70 feet, used for the storing of hospital linen.

Baggage storehouse: One-story building, 24 by 36 feet, used for the storing of baggage. Frame construction.

Quartermaster storehouse: One-story frame construction, 100 by 118 feet, used for the storing of quartermaster supplies.

Guardhouse: One-story frame construction, 24 by 35 feet 6 inches, used for the confinement of prisoners. Capacity: 4 guards, 15 prisoners.

Receiving ward: One-story frame construction, 82 by 93 feet, used for the receiving of patients and storage of their personal effects, with accommodations for 8 patients pending their assignment to other wards. Also used as a post-office substation.

Two 2-story isolation wards, 24 by 156 feet (designated as wards 23–24, and 27–28), of frame construction, each ward having accommodations for 72 patients.

Two 1-story isolation wards, 24 by 151 feet (designated as wards 25 and 26), of frame construction; capacity, 36.

Three double wards and lavatories, 24 by 314 feet (designated as wards 1–2, 16–17, and 18–19), of frame construction, 1-story plan.

Twenty-six single-ward buildings: Wards 3 and 4 (orthopedic); ward 5 (used at present as a nurses' home); ward 11 (orthopedic); wards 12, 13, 14, 15 (medical); wards 31, 32, 33 (orthopedic); wards 34, 35, and 36 (eye, ear, nose and throat); wards 41, 42, 43, 44, and 45 (psychopathic); wards 65 and 66 (orthopedic); wards 71, 72, 73, 74, and 75 (orthopedic). These ward buildings were 1-story frame construction and were used for the accommodation of enlisted sick. Capacity of each ward, 36. Dimensions of each ward, 24 by 157 feet.

Thirteen double-ward buildings: Wards 51–52 (used as quarters for detachment, Medical Department); wards 53–54, 55–56, 57–58, 59–60 (orthopedic); wards 61–62 (occupied by the construction quartermaster and used as office buildings); wards 63–64 (genitourinary); wards 81–82, 83–84, 87–88, 89–90, 91–92 (orthopedic); wards 85–86 (occupied as quarters by detachment, Medical Department). These ward buildings were 2-story hollow-tile construction. Each double ward had accommodations for 72 patients and was occupied by enlisted sick. Dimensions of each ward, 24 by 157 feet.

Officers' pavilions 1 and 2: Two 1-story frame construction, 24 by 314 feet and 24 by 272 feet, used for the accommodation of officers' sick. Capacity, 50 patients each.

Red Cross building: Tile and frame, 82 by 120 feet.

Post-exchange building and auditorium: One-story frame construction, 44 by 157 feet, used as a salesroom and auditorium by the post exchange.

Bakery: One-story frame construction, 24 by 92 feet, used as post bakeshop.

Wagon shed: One-story frame construction, 75 by 90 feet, used for the storing of wagons, and also occupied by the hospital fire department.

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[a] This building had 3 wings.

Bacteriological laboratory: One-story frame construction, 24 by 170 feet. Laboratory addition, 40 by 81 feet 6 inches.

Dental building: One-story tile construction, 24 by 350 feet, occupied by the dental, eye, ear, nose, and throat clinics.

Oil shed: One-story frame construction, used for the storing of oils.

One school building: Wards 93–94, 2-story hollow-tile construction, 24 by 157 feet, used as administrative and school building by the division of reconstruction.

Wards 95, 96, 97, and 98: One-story hollow-tile construction, 24 by 157 feet, used as curative workshops by the division of reconstruction.

The physiotherapy building: One-story hollow-tile construction, 24 by 410 feet, including rooms for the hydrotherapy department, electrotherapy department, massaging, and also a gymnasium. (This building was not actually ready for occupancy until 1919.)

Animal house: One-story frame construction, 10 by 20 feet.

Most of these buildings had concrete foundations (though a few were built on wooden posts), wooden floors, and composition roofs. The wagon shed, bakery, and animal house had concrete floors. All were lighted by electricity and provided with water and sewer connections.

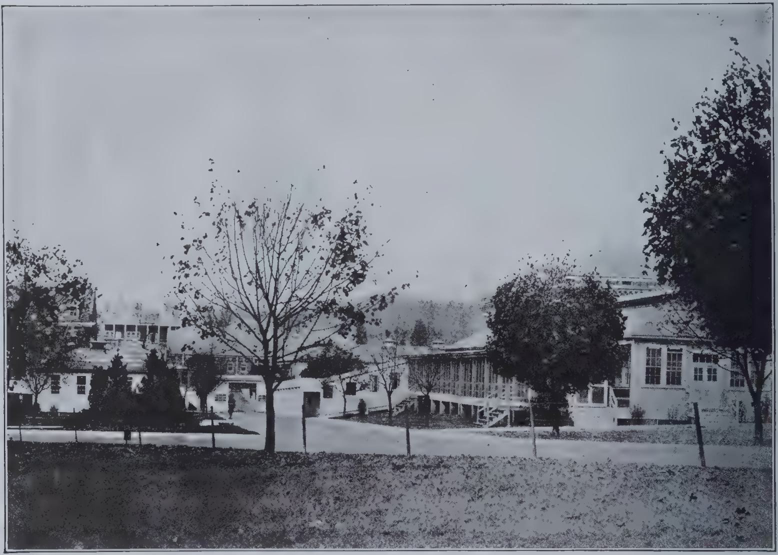

Fig. 96.—A view of temporary buildings, Walter Reed General Hospital.

In addition to the rapid temporary construction during the war period it was necessary to make certain permanent improvements in the hospital proper. The heaviest expense was incurred in the construction of a power house from which all the temporary buildings were heated. The power plant, although started in May, 1917, was not completed until the following year. The foundations are of concrete, the walls of brick, and the roof steel truss. It has two stacks of radial tile, 150 feet high. The dimensions of the plant are 140 by 40 feet with an L wing 40 by 30 feet.

Other permanent buildings erected at this time include an incinerator, a morgue, and a garage addition. The incinerator was a Nye odorless crematory incinerator, consisting of a basement and one story, of brick construction with concrete foundation.

Aside from actual building operations the permanent construction of this period included the installation of various systems and devices, which, with other costs, are enumerated below:

Roads, concrete	$38,097.48
Electric lighting system	794.98
Aero alarm system	19,640.00
Water supply system (in reserve)	45,886.83
Water supply mains (to reserve)	27,071.96
Sewer system	35,681.26
Power house, heating, original	293,000.00
Heating system (exterior to buildings)	59,311.40
Heating system (power house addition)	57,331.30
Heating system (north stack)	6,250.70
Total heating system, part 2	245,408.90
Total	828,474.81

The cost of the permanent buildings erected during the war period is itemized as follows:

Power house, building proper, original	$36,000.00
Incinerator (old building)	8,000.00
Garage addition	24,373.00
Morgue	3,346.30
Alterations, attic of barracks	11,830.59
Service club (a gift paid for from National Catholic War Council Fund)	85,000.00
Total	168,549.89

In September, 1918, the Lane Convalescent Home was taken over as a convalescent home for enlisted sick. This home was located in Takoma Park, D. C., about one-half mile distant from the hospital, and had accommodations for 10 convalescent enlisted men.

In November, 1918, the Friendship Home, also known as the McLean Estate, was taken over as a convalescent home for sick officers. This home, which was offered to the Government by the owner, was located on Wisconsin Avenue NW., Washington, D. C., about 5 miles from the hospital. It had accommodations for 50 convalescent officers.

ADMINISTRATIVE EXPANSION.

After the declaration of war the personnel of the hospital rapidly increased until it was doubled and then redoubled. The picked men of the Regular Army of this time had furnished a small quota of sick, and Walter Reed General Hospital had been an uncrowded, unhurried sanitarium for the care of this small number. Under the pressure of the war emergency it expanded in a little over a year's time into an institution the inhabitants of which were sufficient to make a thriving little town, and possessing many more activities than such a town would have known. The forced growth required unremitting care and control and the widely varied elements gathered at Walter Reed General Hospital had to be bound together with a tight organization. In perfecting such an organization a comprehensive set of regulations was evolved, in which was outlined the following administrative system:

HOSPITAL ORGANIZATION—THE COMMANDING OFFICER.

Department of administration:
1. The executive officer—
    - (*a*) Officer of the day.
    - (*b*) Night administrative officer.
2. Correspondence and records—
    - (*a*) Adjutant.
    - (*b*) Personnel adjutant—
        - (1) Insurance officer.
    - (*c*) Supervisor of clinical records—
        - (1) Registrar.
        - (2) Curator, department of illustration.
        - (3) Medical examining board for officers.
        - (4) Disability board for enlisted men.
        - (5) Demobilization board.
3. Inspection—
    - (*a*) Hospital inspector (inspection of administration and service departments).
    - (*b*) Sanitary inspector (inspection of grounds and buildings for sanitation and maintenance).
    - (*c*) Post surgeon (inspection of dairies, food supplies, etc.).
    - (*d*) Adjutant (inspection of public funds).
    - (*e*) Survey officer (inspection of unserviceable property).
4. Detachment administration—
    - (*a*) Detachment commander, patients—
        - (1) Receiving officer.
        - (2) Disposition officer.
    - (*b*) Detachment commander, Medical Department.
    - (*c*) Detachment commander, Quartermaster Detachment.
    - (*d*) Detachment commander of nurses.
    - (*e*) Detachment commander of aides.
5. Police and fire protection—
    - (*a*) Intelligence officer.
    - (*b*) Prison officer.
    - (*c*) Fire marshals.
    - (*d*) Police officer.
    - (*e*) Courts-martial.

Department of service and supply:
1. Service of supply—
    - (*a*) Supply officer.
    - (*b*) Ordnance officer.
    - (*c*) Finance officer.
    - (*d*) Transportation officer.
    - (*e*) Salvage officer.
    - (*f*) Medical supply officer.
2. Constructing and utilities service—
    - (*a*) Constructing quartermaster.
    - (*b*) Utilities officer.
3. Mess service—
    - (*a*) Mess officer.
    - (*b*) Dietitians.
4. Motor transport service—
    - (*a*) Motor transport officer.
5. Telphone and telegraph service—
    - (*a*) Signal officer.

Department of service and supply—Continued.
- 6. Post exchange—
  - (*a*) Exchange officer.
- 7. Recruiting service—
  - (*a*) Recruiting officer.
- 8. Morale, education and recreation service—
  - (*a*) Chaplains.
  - (*b*) Morale officer.
  - (*c*) Education and recreation officer.
  - (*d*) Service club hostess.
  - (*e*) Librarian.

Department of professional services:
- 1. Surgical service: Chief of service—
  - (*a*) Administration officers—
    - (1) Assistant to chief of service.
    - (2) Chiefs of sections.
    - (3) Ward surgeons.
    - (4) Surgical emergency officers.
  - (*b*) Professional sections—
    - (1) General surgery.
    - (2) Septic surgery.
    - (3) Empyema.
    - (4) Maxillofacial.
    - (5) Neurosurgical.
    - (6) Eye, ear, nose and throat.
    - (7) Orthopedic.
    - (8) Amputation.
    - (9) Dermatology and syphilis.
    - (10) Urology.
    - (11) Obstetric and gynecologic.
  - (*c*) Professional departments—
    - (1) Dental.
    - (2) X-ray.
    - (3) Orthopedic appliance shop.
    - (4) Anesthesia.
- 2. Medical service: Chief of service—
  - (*a*) Assistant to the chief of service.
  - (*b*) Chiefs of section—
    - (1) General medicine section.
    - (2) Neuropsychiatric section.
    - (3) Contagious disease section.
  - (*c*) Receiving officer.
  - (*d*) Post surgeon.
  - (*e*) Ward surgeons.
  - (*f*) Medical emergency officer.
  - Laboratory department—
    - (*a*) Bacteriological section.
    - (*b*) Chemical section.
    - (*c*) Pathological section (mortuary).

Reconstruction and education departments:
- 1. Ward handicrafts: For patients unable to leave their wards.
- 2. Curative shop work: For patients whose primary requirement is curative; occupational therapy.
  - (*a*) Wood working.
  - (*b*) Rug weaving.
  - (*c*) Clay modeling.
  - (*d*) Gardening.
  - (*e*) Typewriting.

Reconstruction and education departments—Continued.
  3. Educational and vocational training—
    (*a*) Academic: English, reading, writing, arithmetic, etc.
    (*b*) Commercial: Shorthand, typewriting, bookkeeping, accounting, office appliances.
    (*c*) Trade and vocational training—
      (1) Auto mechanics.
      (2) Garden and greenhouse management.
      (3) Electrical wiring and dynamo tending.
      (4) Drafting.
      (5) Jewelry making and repairing.
      (6) Machine shop practice.
      (7) Motion picture operating.
      (8) Photography.
      (9) Rug weaving and repairing.
      (10) Wireless telegraphy.
      (11) Oxyacetylene welding.
      (12) Vulcanizing and tire repairing.
      (13) General printing.
      (14) Linotype operating.
      (15) Wood shop practice.

Physiotherapy department:
  1. Measurement and record section.
  2. Hydrotherapy.
  3. Electrotherapy.
  4. Massage.
  5. Medical gymnastics.

Nursing department:
  1. Army Nurse Corps—principal chief nurse—
    (*a*) Assistant chief nurse (records and correspondence).
    (*b*) Day supervisor for graduate nurses.
    (*c*) Night supervisor for graduate nurses.
  2. Army School of Nursing—
    (*a*) Superintendent—
      (1) Theoretical instructor.
      (2) Practical instructor.
      (3) Circulating supervisors for student nurses.

HOSPITAL DEPARTMENTS.

The activities of the hospital were organized under a commanding officer and divided into six departments, namely, administration, service and supply, professional services, reconstruction and education, physiotherapy, and nursing.

Department of Administration.

In the department of administration there were five functional divisions: The executive officer; correspondence and records; inspection; detachment administration; police and fire protection.

The executive officer was charged, under the direction of the commanding officer, with the coordination of all departments of the hospital. Under his supervision the duties of the officer of the day and the night administrative officer were performed. The officer of the day was detailed by the adjutant from the roster of the officers, below field rank, on duty at the hospital, and the detail took precedence over all other details. The tour of duty for this officer was for 24 hours, during which time he might not absent himself from the post. In the absence of the commanding officer and subordinate administrative officer, the officer of the day acted, and he was further specifically charged with the duties of making an inspection tour of the main building and all wards of the hospital at least once during his tour of duty; inspecting the guard at least three times during his tour of duty; inspecting at least one meal at each mess conducted for patients, nurses, and enlisted personnel of the hospital; in case of fire, taking charge pending the arrival of the commanding officer or fire marshal, reporting in detail any fire occurring during his tour of duty and visiting the firehouse at least once during his tour to assure himself that the crew was on duty; acting for the commanding officer in carrying out hospital regulations regarding uniforms, passes for visitors, extinguishing lights, and in the maintenance of order and discipline; witnessing the preparation of the bodies of deceased patients and forwarding reports of deaths to the registrar's office; opening all official telegrams received outside of regular office hours, and sending telegrams indicated by serious illness, deaths or other emergencies; conducting the guard detail, in which connection he was charged with the responsibility of safeguarding the prisoners.

The night administrative officer was the night representative of the executive officer in the coordination of the hospital administration. He was called upon to render all possible assistance to the officer of the day in the maintenance of good order and military discipline, and particularly to maintain by frequent inspection and necessary action the police and fire prevention of the post.

CORRESPONDENCE AND RECORDS.

The adjutant had charge of all incoming and outgoing correspondence, orders, and circulars, and had general control of all hospital records. He verified and issued all orders and details, including administrative assignments, both roster and special of officers and civilian employees. He examined in person all incoming correspondence and referred to the proper officer, letters, orders, or circulars, for guidance or action, maintaining such record of disposition of papers as would insure prompt and certain execution of public business. He caused replies, indorsements, and reports to be prepared for the signature of the commanding officer and replied, in the name of the commanding officer, to letters of inquiry concerning patients. In cases of critical illness or serious operative procedure, he was charged with the notification of relatives, and in case of death in the command, he was charged with the arrangement for the disposition of the remains and the effects of the deceased and the notification of all concerned. He insured the audit of all public funds and submitted a report of audit, together with a statement of all funds, as soon as possible after the end of each month, to the commanding officer. He also acted as historian of the post.

The personnel adjutant maintained the official records of all commissioned officers either on duty or sick at the hospital. He prepared all pay cards, pay rolls, and reports of changes in the status of officers and enlisted men, and all papers, other than professional, relating to the discharge of enlisted personnel on a surgeon's certificate of disability. He was further charged with the maintenance of records of enlisted casual sick, records of the naturalization of aliens, with notarial duties, instruction in income-tax returns, and the supervision of the insurance officer in all matters relating to insurance, compensation, and allotments under the Bureau of War Risk Insurance. The insurance officer was responsible for the preparation of all applications, alterations, conversions, or discontinuances of insurance, and the presentation to the War Risk Bureau of all claims for insurance in cases of permanent total disability.

The supervisor of clinical records was responsible for the permanent record of all patients admitted to the hospital and the preparation of data for the commanding officer relating to the clinical records or professional pronouncement for record and correspondence. He was charged specifically with the following duties: Requiring the proper clinical records to be submitted from the various professional services upon completion of cases whether by discharge, transfer, death, or other disposition; supervising the proper classification, indexing, filing, and preservation of clinical records; signing death certificates; filing records of clinical importance in connection with discharge or other disposition of officers admitted to the hospital; furnishing the commanding officer with a definite and authoritative statement concerning patients, when called upon to do so; representing the commanding officer on the advisory board of the department of exhibits.

The registrar maintained in an indexed and available form all medical and surgical records, prepared all reports and returns pertaining to the sick and wounded and kept an accurate index of diseases.

The curator had charge of the department of illustration. The purpose of this department was to collect, index, preserve and exhibit prints, slides, sketches, specimens and models of scientific interest in connection with the work of the hospital. The department was composed of a pictorial section (oil, black and white, water color); a photographic section (color, portrait, specimens, prints, slides, enlargements and reductions, microphotography); and a modeling section (plaster, wax). The curator received requests for work from any department of the hospital and assigned the execution of the work to the proper artists. He bore the responsibility for the care, preservation, and proper arrangement of all exhibits. The policy of the department and all questions arising in connection with the character of work and a priority of consideration, were determined by an advisory board consisting of the chiefs of the medical and surgical services, the chief of laboratory service, and the supervisor of clinical records.

The medical examining board for officers consisted of the chief of the surgical service, the chief of the medical service, the chief of the eye, ear, nose and throat department, and the supervisor of clinical records. The last named officer was the recorder of the board. The board acted on recommendations for retirement or other disposition of officers of the Regular Army; the disposition of temporary officers; the disposition of nurses; and the review of cases of appeal from action of the disability board.

The disability board for enlisted men, the duties of which were those indicated by the name of the board, consisted of the supervisor of clinical records, the first assistant supervisor of clinical records, a representative of the surgical service, a representative of the medical service, a representative of the eye, ear, nose and throat department, and a representative of any speciality, upon call of the chairman.

The demobilization board, organized for the purpose of examining officers and enlisted men prior to demobilization, consisted of the supervisor of clinical records, the first assistant supervisor of clinical records, the second assistant supervisor of clinical records and a representative of the eye, ear, nose and throat department.

INSPECTION DIVISION.

The inspection division was organized as follows: Hospital inspector (inspection of administration and service departments); sanitary inspector (sanitary inspection of grounds and buildings); post surgeon (inspection of dairies, food, food supplies, etc.); adjutant (inspection of public funds); and survey officer (inspection of unserviceable property). The hospital inspector was required to make a progressive study of the administration and service of the departments of the hospital, with a view to increased efficiency. The sanitary inspector made periodical inspections of all buildings and grounds of the station for the adequate maintenance of sanitation, police, fire prevention, upkeep of building, and general discipline of enlisted personnel on duty. Seven noncommissioned officers were detailed to assist him in such inspection. The post surgeon furnished medical attendance to the personnel on duty. He held sick call and prescribed physical inspection for detachments of the enlisted men; he furnished medical attendance to nurses and aides. He was responsible for the furnishing of medical attendance to every man in confinement and acted as ward surgeon to detention wards. He was authorized to call upon the special professional services for special treatment, when necessary. He was responsible for the maintenance of prison wards in a proper sanitary condition. He was expected to make a careful survey of conditions affecting health of the command, instituting corrective measures whenever indicated, and at the end of every month to prepare the surgeon's sanitary report; to keep informed concerning the source, prevention, and disposal of food supplies; and to see that food handlers were free from contagious or communicable diseases. The disinfection of buildings and property exposed to contagious diseases was in his charge. To the survey officer fell the duty of disposing of property which had been rendered unserviceable other than by fair wear and tear in the service, as indicated in paragraph 717, Army Regulations.

DETACHMENT ADMINISTRATION.

The division of detachment administration included five commanders, for the patients, Medical Department, Quartermaster Department, nurses, and aides. The commander of the detachment of patients performed all duties of his office as prescribed in Army Regulations, Manual for the Medical Department, general orders of the War Department, and the regulations of Walter Reed General Hospital. Under his direction the receiving officer and the disposition officer performed their respective duties. The receiving officer was charged with the following duties and responsibilities:

(1) To receive, examine, classify, and send to the proper wards all incoming patients, exercising due precaution in the prompt isolation of contagious or infectious diseases.

(2) To keep informed at all times concerning the number of beds available in the various wards and to foresee and provide for expected arrivals.

(3) To supervise the transportation of sick and wounded to and from the hospital.

(4) To care for all incoming patients who required immediate or emergency treatment.

(5) To receive, receipt for, and safeguard the valuables of incoming patients.

(6) To provide transportation and to receive and receipt for the baggage of the patients.

(7) To prepare all required forms, records, and notifications in connection with the admission of patients.

(8) To provide medical attendance, nursing, and ward service for patients in the receiving ward.

In connection with the duty of safeguarding the valuables of incoming patients, when such patients were irresponsible, the receiving officer was required to cause the money or valuables of those patients to be collected in his presence and that of a competent witness. The disposition officer was held responsible for the conduct of the disposition office, the post office, the information desk, the patients' baggage room, and the patients' bank. He made all necessary arrangements for patients expecting to leave the hospital, providing special transportation for crippled or invalid patients. Information concerning railroad transportation was furnished as well as assistance in procuring it; the delivery of baggage and personal effects; and the furnishing of transportation to home or railroad station. Upon receipt of approved requests, the disposition officer issued passes to patients for temporary absence from the hospital. In performing his routine duties in connection with the personal effects and baggage of patients, the disposition officer was required to keep four files: A live file for the effects of patients in the hospital; a dead file for the effects of patients who had left the hospital and taken their belongings with them; a suspended file for the effects of patients who had left the hospital and had not taken their belongings with them; and a file of receipts for baggage held by the supply officer. An elaborate filing system was required for the maintenance of the bureau of information, for all patients and personnel of the hospital. The detachment commander, detachment, Medical Department, assigned personnel to duty in the hospital and made prompt replacements for casualties. He provided for the instruction of enlisted personnel assigned to him and maintained the discipline of the detachment. He kept a detachment punishment book; personally investigated accusations before preferring charges; and he furnished a record of company punishments or prior court-martials, with recommendations, or a brief statement of his investigations in submitting charges. He performed such other special duties in connection with the personnel on duty at the hospital as were assigned to him, as well as all duties of a detachment commander. The detachment commander, quartermaster detachment, performed all duties of a detachment commander as prescribed in existent regulations and orders. The detachment commanders of nurses and aides were responsible for the discipline, performance of duty, and conduct while on duty, of nurses and aides assigned to their respective departments.

POLICE AND FIRE PROTECTION.

The police and fire protection division of the department of administration included an intelligence officer, a prison officer, fire marshals, a police officer, and courts-martial. The intelligence officer carried out the instructions of the military information division and such other instructions as he received from the commanding officer. The prison officer exercised immediate command of the guard detachment and assigned the guard detail by roster. He kept a record of all prisoners and made the necessary reports of prisoners; he also kept a guard report. He was charged with direct responsibility for the security of the guardhouse and other places of confinement of prisoners, and with the cleanliness and sanitation of such places. The prison was designated and occupied as follows: The main guardhouse, for garrison prisoners other than patients; the detention ward, for patients under detention; and ward "A," separate rooms for the confinement of prisoners sick with contagious diseases, and for other special purposes. No prisoner suffering with a contagious disease was confined with other prisoners who were not similarly affected. All prisoners in confinement were equipped with proper clothing and bedding, and any prisoner claiming to need medical attention was given prompt medical examination. The fire marshal was charged with the inspection of fire apparatus, and to him fell the duty of making recommendations for fire prevention and of initiating additional measures for this purpose. He insured the instruction and drill of the regular fire crew and of the officers and enlisted personnel on duty. Pending the arrival of the District of Columbia fire department, he was expected to take immediate charge of fire fighting. The following is a résumé of the fire regulations of the hospital. In the fire protection branch of the hospital there were at least at all times a fire marshal, a first deputy fire marshal, a second deputy fire marshal, the officer of the day, and the fire chief (civilian). One of the officials, in addition to the officer of the day, was on duty at all times. The senior officer present assumed charge of fire fighting until the arrival of the commanding officer or fire department officials. In order to prevent fire, smoking was strictly prohibited in storerooms, garage, motor transport office, repair shops, stables, and workrooms of the reconstruction shops; floor brighteners and other highly inflammable materials were required to be kept in tightly corked original containers, and with the cloths used in applying them were stored in sealed lockers, not in wooden closets or storerooms. Smoking was prohibited in the post auditorium and Red Cross house during performances or assemblies, and the closing or blocking of exits from these buildings was prohibited. At the alarm of fire, the personnel other than those for whom special duties were provided in the regulations, proceeded with all possible speed to the scene of the fire and reported as follows:

Administrative officers, and others not assigned to the professional services, to the executive officer or his deputy, for assignment to duty with sections of the fire-fighting department. Officers of the surgical service to the chief thereof or his deputy, for assignment to specific stations and duties. The function of the surgical service was the removal of patients from threatened buildings. The chiefs of litter squads, upon arrival at the scene of a fire, were required to report to the chief of the surgical service or his deputy. Officers of the medical service to the chief thereof, or his deputy, for assignment to specific stations and duties in connection with salvage operations. The chiefs of salvage details, upon arrival at the scene of a fire, were required to report to the chief of the medical service or his deputy. All ward medical officers, whose wards were in the district in which the fire developed, repaired to their respective wards to maintain order and prepare, if necessary, to remove their patients. Nurses repaired to their wards and, if danger threatened, prepared their patients to be moved. Noncommissioned officers in property and finance offices closed their offices and proceeded to the scene of the fire. Noncommissioned officers and attendants on duty in receiving and disposition wards remained at their posts of duty. Cooks preparing meals remained at their posts, but dining-room attendants proceeded to the scene of fire. All enlisted men in barracks, not otherwise provided for, assembled upon the detachment parade grounds under the supervision of the senior noncommissioned officer present, who conducted them at double-time to the scene of the fire and reported to the fire marshal or the officer in charge. Patients in buildings, other than the one which was on fire, did not leave them unless the fire marshal deemed it necessary to have them moved to a place of safety. The officer of the day made a personal check of all motor and hand-drawn equipment reporting at the scene of the fire and noted the time of arrival of each vehicle. The fire chief, or the first officer arriving at the scene of the fire, notified the telephone operator if it was apparent that the services of the Washington City fire department would be required.

The fire chief was charged with the instruction, discipline, performance of duty, and conduct while on duty, of all personnel permanently detailed or employed in the fire department. He was responsible for the maintenance in proper condition for instant use of all fire-fighting equipment in the post. He was further charged with a daily inspection of the hospital, with the view to the elimination of fire risks, and he was placed under immediate direction of the fire marshal in all particulars. The fire marshal held frequent fire drills, subject to the approval of the commanding officer, and immediately following such drills all fire apparatus was inspected.

The aero automatic fire-alarm system which was installed in practically all buildings could be set in operation in two ways: by breaking the glass rod in the signal box, and by means of sudden rise in temperature on the aero wires. Variations in temperature, not resulting from fire, caused frequent false alarms to come in over the automatic fire-alarm system, so that it became necessary to map out a procedure when this alarm sounded. All personnel heretofore specified were to proceed at once to the building from which the alarm emanated, and under no circumstance to leave the vicinity until the fire marshal or other competent officer made a thorough investigation of the cause of the alarm. If the alarm proved to be a false one, recall was sounded and personnel and equipment returned to their proper stations. In case of aero alarm, switchboard operators were not required to give notice of fire until notified by a responsible officer that a fire actually existed; nor did the sergeant of the guard have "fire call" and the siren sounded until after receipt of like information.

The officer in charge of the utilities department was responsible for the proper manning of all equipment in the fire department. He was permitted to call upon the post supply officer and the motor transport officer for such number of men as he might need. The detachment commander, Quartermaster Department, detailed from his detachment properly trained day and night crews for handling hose and ladder trucks and 22 carts. The detachment commander, Medical Department, detailed day and night crews to handle other hose carts. He also formed and instructed in their duties one salvage section, one bucket section, one fire extinguisher section, and one ladder section.

The hospital was furnished with a complete fire-fighting equipment and was provided with numerous fire telephones, marked at night with red lights and with signal boxes.

The following fire-fighting equipment was maintained: One La France auto combination pump, chemical and hose truck; one Ford motor chemical tank (33 gallons); one Ford motor combination chemical and hose wagon (33 gallons); one hand-drawn hook and ladder truck with a 55-foot extension ladder, two 24-inch plain ladders, and one 10-foot roof ladder; four hand-hose reel carts with 45 feet of 2½-inch hose; three hand-drawn chemical carts (66 gallons); 15 hand-drawn chemical carts (33 gallons); 7 extension ladders, 40 and 50 foot lengths; 43 ladders, plain (30-foot lengths); 641 buckets, fire; 216 chemical fire extinguishers, 1 quart (Pyrene); 77 chemical fire extinguishers, 1 quart (Fight Fire); 144 axes (pick); 226 hand grenades; 45 fire hydrants; 1,750 feet of ¾-inch rubber hose for chemical tanks; 3,250 feet of 2½-inch cotton hose.

The automatic fire-alarm system was installed in the temporary wards and storehouses. It consisted of 126 circuits, 2 punch registers, and 10 aero gongs. In addition to the aero alarm system there was a local alarm system for the administration building only, with a signal alarm in the basement and on all floors. An electric siren and alarm was installed at the power house, but did not prove to be satisfactory.

The police officer was charged with the general policing of the grounds of the post, and made a systematic inspection of each section of the post for this purpose. Courts-martial were conducted in accordance with the Manual for Courts-Martial, and all officers charged with the administration of justice or with the execution of military sentences were required to acquaint themselves with the provisions of this manual.

Department of Service and Supply.

The department of service and supply included eight divisions, identified as follows: Service of supply; constructing and utilities service; mess service; motor transport service; telegraph and telephone service; post exchange; morale; educational and recreation service.

The division of service of supply included six officers, namely, supply, ordnance, finance, transportation, salvage, and medical supply. The supply officer was charged with the procurement and issue of all supplies for the post, and the proper accounting for the supplies received. In the absence of a commissioned subordinate, he administered the ordnance, the commissary, the transportation, salvage office, and the medical supply office. The medical property officer was in charge of the supply, issue, repair, care, and disposal of all medical property. He was the equipment officer of the hospital and was expected not to wait for requests but to seek in every way possible to obtain and issue the best equipment for the hospital. His responsibilities included receiving, accounting for, and transmitting to the United States Treasury all money collected for sale of medical supplies to civilians. The officer in charge of the dispensary transmitted to him all funds received for the sale of supplies to civilians, with the name of the purchaser, the date of sale, and the prescription number. A medical officer was designated as in charge of the pharmacy by the commanding officer. This officer supervised the work of the department and was responsible for its proper functioning. The functions of the pharmacy were as follows: Compounding prescriptions; issuing drugs upon prescription of the medical officer on duty; manufacturing compounds for the wards of the hospital; and procuring, recording, storing, and issuing supplies in accordance with regulations.

The constructing and utilities service was administered by two officers—the constructing quartermaster and the utilities officer. The constructing quartermaster was responsible for the construction work in accordance with the plans, specifications, and instructions received from the Chief of the Construction Division, War Department. The utilities officer was charged with the repair and maintenance of all military structures on the post and with the maintenance of all utilities connected therewith, except the handling of passengers and freight. Specifically, the utilities officer was responsible for buildings and grounds, roads, walks and fences, sewerage and drainage systems, plumbing, heating, electrical energy, refrigeration, water supply, and fire protection.

The mess service was administered by a mess officer, assisted by the dietitians. The mess officer was in charge of all messes on the post and was responsible for the procurement of proper food supplies and their satisfactory preparation and service. He exercised immediate control of both civilian and enlisted personnel assigned to mess duty, required necessary medical and laboratory examination of all food handlers; supervised the assignment and performance of duty of dietitians and provided such special diets or articles as might be prescribed by the medical officers. The head dietitian cooperated with the mess officer, the professional services, and the chief nurse in the preparation of proper diets for patients in the hospital. She assigned her subordinates and was in direct charge of their discipline. The dietitian placed in charge of the mess was responsible for the dietary service of that mess. She was expected to acquaint herself, by consultation with the ward surgeon or head nurse, with the special needs of the individual patients, and strictly to follow instructions received from special services for special diets. A daily report was furnished by the head nurse of each ward to the principal chief nurse, giving constructive criticism upon meals served in her ward. This report was submitted to the mess officer through the head dietitian. The mess department conducted messes as follows:

(1) An officers' mess which provided for officers and civilians in the status of officers who were patients in the main administration building, and also for ambulant patients of these classes in other wards.
(2) Patients' general mess, which provided for all enlisted men and civilians upon such status.
(3) Detachment mess, conducted by detachment commander.
(4) Nurses' mess, conducted by the stewardess assigned to this mess under the supervision of the chief nurse.
(5) Mess for officers' pavilion No. 1, which provided for patients in said pavilion and other neighboring officer wards.
(6) Mess for the women's ward.

The motor transportation service provided four classes of service: Passenger, freight, ambulance, and fire-fighting equipment. The motor transport officer was charged with the procurement, maintenance, operation, and disposition of all motor transportation of the post; he controlled military and civilian personnel assigned to his department; and he required obedience to traffic laws, promptly investigating and reporting traffic accidents involving his equipment.

The signal officer maintained the telegraph and telephone service of the post. He employed and controlled the civilian personnel assigned to the service, and exercised immediate control of enlisted personnel detailed for this duty.

The exchange officer conducted the post exchange, in compliance with Army Regulations. The exchange, in addition to the usual store service, included a barber shop and a lunch counter. It also provided funds for conducting a cafeteria service by the service club. The net profits of the cafeteria service, after all operating expenses had been paid, were assigned by the post exchange to the educational and recreational officer, to be used for recreational service for the enlisted personnel and patients of the hospital.

The morale, education, and recreation service included chaplains, a morale officer, an education and recreation officer, a service club hostess, and a librarian. The chaplains performed the usual duties of their office. The morale officer, under the direction of the commanding officer, established a morale organization, charged with the general functions indicated in War Department instructions. The education officer was charged with the institution and operation of schools for the enlisted personnel of the post. The recreation officer had supervision of the entertainment of patients and hospital personnel and of the recreational work of the welfare organizations and other volunteer organizations permitted on the post. He provided generous and varied opportunity for athletics and recreation for convalescent patients and for personnel on duty. Under his direction a service club was operated by a hostess and a post library by an authorized appointee.

Department of Professional Services.

THE SURGICAL SERVICE.

The surgical service was administered by a chief of service, an assistant to the chief of service, chiefs of sections, ward surgeons, and surgical emergency officers.

The chief of the surgical service was charged with the responsibility for all matters relating to his service, including the character of professional service rendered and the care and treatment given to surgical patients, the preparation, maintenance, and disposition of clinical records of surgical patients and the instruction of medical officers, nurses, and enlisted personnel assigned to this service.

The assistant to the chief of the surgical service performed all the duties of an administrative officer to the service and such additional duties as might be assigned to him by his chief.

The chiefs of section were responsible for the efficiency of professional services rendered; for the care and treatment of patients; for the maintenance of good order, military discipline, police, and sanitation; for the instruction of subordinate medical officers, nurses, and enlisted attendants; and for the preparation, preservation, and the proper disposition of records of patients in each section. Each chief surveyed all patients in his section at frequent and regular intervals, in company with the ward surgeon, and initiated measures for the disposition of patients at the proper time. In consultation with the ward surgeon, he caused to be prepared the disability reports for military patients who were recommended for disability discharge and insured that complete clinical records were forwarded with these recommendations to the supervisor of clinical records, through the chief of service. He required that a careful clinical history of all patients be submitted to him by the ward surgeon at his first consultation or within 24 hours thereafter; and that progress sheets and diagnoses be kept up to date. He held consultation with an officer representing the physiotherapy department for every patient in his section whose condition indicated such special treatment. He was responsible that any necessary dental examination, eye, ear, nose, and throat examination, and other indicated special examinations were accorded patients in his section. He maintained an office and forwarded routine papers at least twice daily. All requests for leaves or passes for officer patients, furloughs for enlisted patients, requests for transfer, or other disposition of patients were sent by the ward surgeon, with his recommendation, to the chief of section, who promptly forwarded the same, with recommendation, to the proper office. Furlough requests were forwarded direct to the commanding officer, detachment of patients. All other leave requests, transfer requests, etc., were sent to the chief of the surgical service. A chief of section was required to report to the office of the chief of service one-half hour prior to the beginning of the tour of duty of the senior surgical emergency officer and to inform the emergency officer concerning special treatment of serious surgical cases of his section. The chief of a section was further required to investigate complaints of patients and to make satisfactory disposition of such defects as far as possible. He controlled the transfer of patients within his section and made recommendation to the chief of service for transfers to other sections or services. He was responsible for measures of fire prevention in his section and assumed charge of the removal of patients and the salvage of public property in his section in case of fire. He submitted to the curator requests for work by the department of illustration.

The surgical service included the following sections: General surgery, septic surgery, empyema, maxillofacial, neurosurgical, eye, ear, nose, and throat, orthopedic, amputation, dermatology and syphilis, urology, obstetrics, and gynecology.

The general responsibility of a ward surgeon included the care and welfare of all patients in his wards; the treatment and diet of his patients; the discipline of the attendants and patients; the police of his wards and porches; the rendition of reports and returns; and the enforcement of hospital regulations in so far as they applied to his ward. He made at least one round of his wards in the morning and at least one in the afternoon. Ward morning reports were prepared by him to cover all cases admitted, disposed of, or transferred from and to the ward in the previous 24 hours ending at midnight. Daily diet requests and mess storeroom requests were signed by the ward surgeon and sent to the mess officer before 9.30 each morning. Diagnosis cards, received by the ward from the receiving officer, were completed by the ward surgeon and turned in to the sick and wounded office as soon as possible, preferably within 48 hours. Duty slips for all cases disposed of either as duty, discharged, transferred to other hospitals, sick leave or furlough, were completed by the ward surgeon and sent through the chief of the section, with complete clinical records, to the registrar, 24 hours previous to the patient's departure. A complete examination and clinical history were made in every case by the ward surgeon as soon as practicable after the admission of a patient. Upon the disposition of a case the clinical record was completed and signed by the ward surgeon and sent to the registrar. In case of death of a patient, the clinical records were completed (including a statement as to the cause of death, signed by the ward surgeon) and sent to the registrar without delay. Requests for consultation were prepared by the ward surgeon and were submitted to the chief of section. As soon as practicable after admission of a patient the ward surgeon called upon the dental surgery officer for a dental examination, and the chief of the eye, ear, nose, and throat section for an eye, ear, nose, and throat examination. When a patient was to be transferred from one ward to another, a transfer slip, signed by the ward surgeon and initialed by the disposing chief of section, was sent to the chief of section receiving the case, who indicated the ward to which the patient was to be sent. The transfer slip and clinical record were then sent with the patient to the ward indicated. The ward surgeon promptly sent the transfer slip to the registrar. Recommendations for transfer to other hospitals were prepared by the ward surgeon and sent to the chief of section for the consideration of the chief of service. When a patient was discharged for diasbility, the ward surgeon arranged for a consultation with the chief of section and submitted the data for the preparation of a certificate of disability. Routine pass privileges were granted or refused by the ward surgeon. Special requests for leave of patients were submitted by the ward surgeon to the commanding officer, detachment of patients. For all contagious diseases, mumps excepted, the ward surgeon immediately made out a report card to the Health Department, District of Columbia. This card was sent, together with the diagnosis card, to the registrar; and when the patient had recovered from the disease, the ward surgeon sent a recovery card in the same manner. Every precaution was taken in contagious-disease wards to prevent spread of the contagion. The ward surgeon was responsible for the preparation of notifications of death or serious illness and their transmission to the proper officer. Upon the death of a patient he prepared the notification in quadruplicate and sent one copy to the adjutant, one to the detachment commander of patients, one to the supervisor of clinical records, and one to the officer in charge of the mortuary. Upon receipt of this notice the adjutant, or in his absence the officer of the day, notified the nearest relative with utmost speed. All valuables were removed from the body under the direct supervision of the ward surgeon and were turned in to the adjutant. In case of serious or critical illness, or contemplated major operations, serious illness cards were sent by the ward surgeon to the adjutant. These slips included the names of such relatives as the patient wished to notify and stated whether the notification should be made by telegram or letter. The ward surgeon was further required to notify the chaplain of cases of death and serious illness. He also kept relatives of the patients in his particular ward informed of the clinical progress of the patient. The ward surgeon signed requisitions for medical supplies, sending them to the medical property officer direct. He was required to exercise special care in the matter of requisitioning narcotics, intoxicating liquors, or habit-forming drugs, and after their receipt he was required to keep them under lock and key. Finally, he was responsible for the protection of the property of the patients, for the maintenance of discipline, and for observing precautions against fire in the ward.

Two surgical emergency officers were detailed by roster from medical officers on duty in the surgical service. The senior member was an officer of field rank and his tour of duty was from 5 p. m. to 9 a. m. The tour of the junior member was from 9 a. m. to 9 p. m. The senior member saw all acute surgical cases and visited all patients who had been operated on the day of his tour, taking any action indicated. He acted as consultant and advisor to the junior member and, upon request, to the medical emergency officer. The junior officer functioned in the absence of surgical ward surgeons. He made a complete inspection of the entire surgical service between the hours of 9 p. m. and 12 midnight. In case of death he saw that the body was properly tagged and removed to the mortuary.

Professional departments which were subsidiary to the surgical service were the dental department, the X-ray department, the orthopedic appliance shop, and the department of anesthesia.

The chief of the dental department was responsible for the dental service rendered at the hospital, for the supervision and instruction of all personnel assigned to his division, and for all the public property under his control. All military patients admitted to the hospital were examined by the dental survey officer, who furnished a report to the chief of his department. The chief of the dental department furnished imperative dental attention whenever indicated and elective dental attention as far as possible.

The chief of the X-ray department was responsible for the X-ray service rendered at the hospital, for the supervision and instruction of all personnel assigned to his division, and for all equipment and public property under his control. Before ordering an X-ray series, surgeons were required to ascertain whether a series had been taken within four weeks; and, if such a series were available and satisfactory, to refrain from ordering another series. In no instance was another series ordered within three weeks of a former exposure of a patient unless specifically authorized by the officer in charge of the X-ray department.

The chief of the orthopedic appliance shop was responsible for the conduct of the shop, the supervision of the personnel assigned thereto, and the care of the equipment.

The chief anesthetist supervised the administration of anesthetics, gave instruction in such administration, and took general charge of the operating rooms and personnel.

THE MEDICAL SERVICE.

The organization of the medical service closely followed that of the surgical service and included a chief of service, an assistant chief of service, chiefs of sections, ward surgeons, and a medical emergency officer. With the exception of the last-named officer these officers were charged with responsibilities corresponding to those already outlined for the surgical service. The medical emergency officer was appointed by the chief of service from among the available officers of the medical service. His tour extended from 9 a. m. of the date designated to 9 a. m. of the succeeding day. During his tour he did not leave the reservation and was required to keep the switchboard operator advised of his whereabouts at all times. The medical emergency officer was charged with the care of all persons and patients in the detention wards. In the absence of ward surgeons he was in charge of all medical patients. When patients of the medical service developed surgical conditions he consulted with the surgical emergency officer, and he likewise stood ready to give advice concerning surgical patients who developed medical conditions. When any patient died in the medical and detention wards he examined the dead and ordered the remains to be removed to the mortuary.

THE LABORATORY SERVICE.

The chief of the laboratory department was responsible for the laboratory service rendered at the hospital, for the supervision and instruction of all personnel assigned to the laboratory, and for the care of all laboratory equipment. He maintained a bacteriology section, a chemical section, and a pathological section in his laboratory. He assigned responsibility for the care and conduct of the mortuary; and he was responsible for the proper performance of autopsies, when authorized by the commanding officer, and for the proper disposition of the bodies of all deceased patients received at the mortuary. Upon request of the mess officer or detachment commanders he examined food handlers to eliminate typhoid carriers, and upon request of chiefs of service he examined any patients or personnel to identify carriers of communicable disease. At regular intervals he examined food supplies. Upon requests of chiefs of service or detachment commanders he administered vaccine. He maintained a list, by groups, of volunteer donors for blood transfusions, and supplied a donor when requested by chiefs of service.

The Department of Reconstruction and Education.

The department of reconstruction and education included three divisions, namely, ward handicrafts, curative shop work, and educational and vocational training. The department was administered by an educational director.

The Physiotherapy Department.

The physiotherapy department was likewise administered by a director who was responsible for the conduct of his department, its personnel, and equipment. Physiotherapy was prescribed by chiefs of service or section, and frequent consultations were required between the medical officers prescribing the treatment and the officers who gave it.

The Nursing Department.

The nursing department of the hospital was administered by the principal chief nurse and the assistant principal chief nurse, the day supervisor of graduate nurses, the night supervisor of graduate nurses, and the superintendent of the Army School of Nursing.

The principal chief nurse was responsible for the efficiency of the nursing and for the conduct of the Army School of Nursing. She had charge of the instruction, assignment, discipline, performance of duty, and conduct while on duty of members of the Army Nurse Corps and Army School of Nursing, and the supervision of the female help employed for general kitchen and housekeeping purposes. She was responsible for the equipment and public property for the nurses' quarters and for the sanitation of and measures for fire prevention in those quarters. She supervised the records of the Army dietitians and was responsible for the preparation and disposition of the records of her department.

The assistant principal chief nurse was charged with the records and correspondence concerning the nurse corps on duty at the hospital and such other duties as might be assigned to her by the principal chief nurse. In the absence of the latter the assistant assumed complete charge.

The day supervisor of graduate nurses made a daily inspection of all wards for the purpose of determining the character of the performance of duty by the nurses. She devoted special attention to the care and nursing afforded the seriously ill, the preparation and service of diets in wards, and the measures taken to protect and issue intoxicating liquors and habit-forming drugs.

The night supervisor of graduate nurses made a nightly inspection of all wards corresponding to the daily inspection made by the day supervisor.

The superintendent of the Army School of Nursing conducted the school for undergraduate nurses at the hospital. She was guided by instructions received from the commanding officer and from the principal chief nurse; and she supervised the work of the nurses in charge of instruction in theoretical nursing, practical nursing, and supervision of undergraduate nurses in the wards.

PERSONNEL.

STRENGTH OF COMMAND.

The mean daily strength of personnel on duty at the hospital in the year 1917 was: Medical officers, 22.8; Medical Department and Quartermaster Corps, 223.1; Army Nurse Corps, 44.7. During the year 1918, the mean strength of the command was: Medical officers, 86.3; detachment, Medical Department, 889.1; detachment, Quartermaster Corps, 136.7; Army Nurse Corps, 147.8; reconstruction aides, 33.6; civilian employees, 18.9.

The post return for December 31, 1919, shows 451 officers present and absent; and a total strength of command of 3,188, the latter figure including a military total of 2,661, present and absent, and a civilian total of 527, present and absent. An analysis of the figures shows the strength of the detachment, Medical Department, as 648 men. At the beginning of 1919, 1,090 enlisted men of the Medical Department were on duty at the hospital. All but 70 of this number were emergency men who, during the year, were discharged and replaced by enlisted men of the Regular Army. In June, 1919, 166 nurses were on duty. During the year replacements and transfers were effected and at the end there remained 201 nurses on a duty status.

ARMY SCHOOL OF NURSING.

The first student nurses arrived at Walter Reed General Hospital August 5, 1918. In September, there were about 45, 9 of whom were of the training class of Vassar College. In November, 25 more students arrived. These young women had been helping, during the influenza epidemic, at Camp Humphreys, Va. To this group, 26 probationers were added, making a class of 51. At the beginning of January, 1919, there was a total enrollment of 66 student nurses in training. During February and March following, the students were accepted as regular members of the Army School of Nursing, upon completion of their four months of probationary training. In March and April, all student nurses who had entered the Army for service during the emergency period were released from the rapidly closing camps. Students who desired to complete the three-year period of training were, in many instances, transferred to Walter Reed General Hospital. This policy of concentration continued uninterruptedly throughout the year 1919, toward the end of which the total enrollment was 112; and in this number were represented students from practically all the units of the Army School of Nursing, formerly connected with eastern military hospitals.

The theoretical and practical work given the student nurses was in strict compliance with the standard curriculum for schools of nursing as authorized by the National League of Nursing Education, 1918. In Circular Letter No. 301, Surgeon General's Office, 1919, authorization for allowance of from three to nine months was given for students with college credits or with credits from approved technical schools.

By means of affiliation with civil hospitals, students were given adequate training in pediatrics, gynecology, obstetrics, psychiatry, and public health nursing. The time allowed for affiliation work was one year.

The daily routine was eight hours of work in the wards, one hour of class work, and one hour of study. In addition to being placed in surgical and medical wards, the students were also placed on duty in the general operating room, the eye clinic, the ear, nose, and throat clinic, the dental clinic, the various diet kitchens, and the surgical dressing room. Each student was given a service of eight weeks in each department.

A course of occupational therapy was given to the student nurses in the occupational therapy department. This course included the teaching of all forms of invalid occupation.

COURSE OF SURGERY FOR MEDICAL OFFICERS.

Due to the fact that demobilization had separated a great many competent surgeons from the service, and also to the fact that hospitals contained many cases requiring surgical intervention, it became necessary to train officers of the Regular Medical Corps in surgical technique, to enable them to cope with the situation confronting the Medical Department after the cessation of hostilities. Because of the unusual number and variety of surgical cases at Walter Reed General Hospital, a three months' course of surgical instruction for Regular Medical Officers was begun the latter part of June, 1919. The course comprised a series of lectures by the different section chiefs of the surgical service, the assignment of each officer to each section for one week's practical instruction in the wards, his assignment as an assistant in operations performed on patients in the section to which he had been detailed, and his designation as principal operator in certain types of ordinary surgical operations (particularly herniotomies and appendectomies).

PATIENTS.

The work of the hospital during 1917, the first year of the war period more than doubled. There were 4,256 patients admitted during the year, an increase of 2,906 over the preceding year. A table prepared for the Walter Reed General Hospital Annual Report for 1917, to show the average number of days in hospital for each patient, also indicates the range of cases and their distribution in the various services of the Army. This table follows:

TABLE 15.—*Average number of days lost in hospital, Walter Reed General Hospital, 1917.*

REGULAR ARMY.

Class of cases.	Officers.	Enlisted men.
Medical	16.253	16.295
Surgical	22.282	30.004
Venereal	26.666	32.303
Mental	31.286	29.078
Eye, ear, nose, and throat	23.821	19.983

NATIONAL ARMY.

Class of cases.	Officers.	Enlisted men.
Medical	11.233	15.193
Surgical	20.000	20.180
Venereal	3.500	25.964
Mental	1.750	23.700
Eye, ear, nose, and throat	5.133	14.250

NATIONAL GUARD.

Class of cases.	Officers.	Enlisted men.
Medical	21,273	13.077
Surgical	11.166	25.470
Venereal	....	24.649
Mental	....	32.400
Eye, ear, nose, and throat	13.500	18.666

CIVILIANS.

Class of cases.	Males.	Females.
Medical	17.344	18.273
Surgical	34.851	21.53
Venereal	26.333	....
Mental	13.833	4.000
Eye, ear, nose, and throat	34.082	40.318

In the surgical clinic, 974 operations were performed during 1917. A condensed tabular statement furnishes an admirable projection of the surgical experience of the hospital during that year, when the massing of troops had concentrated the demands upon the surgeons but before the overseas cases, with their more complicated problems, had arrived.

TABLE 16.—*Surgical operations performed at Walter Reed General Hospital, 1917.*

	Officers, Regular Army.	Enlisted men, Regular Army.	Officers, Organized Militia.	Enlisted men, Organized Militia.	Officers, National Army.	Enlisted men, National Army.	Army Nurse Corps.	Total.	Retired officers.	Retired enlisted men.	Civilians.	Total.	Grand total.
Cranium	1	1	......	......	......	2	......	4	......	......	......	......	4
Eye	3	7	......	1	......	......	......	11	......	......	2	2	13
Nose	26	50	1	5	......	1	......	83	1	1	21	23	106
Ear	1	6	......	......	......	1	......	8	1	......	7	8	16
Throat	11	44	2	11	......	6	2	76	......	......	159	159	235
Face	......	2	......	1	......	......	......	3	......	......	......	......	3
Neck	......	6	......	2	......	......	......	8	......	......	4	4	12
Upper extremity	2	20	......	4	......	......	......	26	......	1	1	2	28
Abdomen	60	207	1	25	5	28	1	327	2	4	51	57	384
Gynecological:													
External	......	......	......	......	......	......	......	......	......	......	1	1	1
Internal	......	......	......	......	......	......	......	......	......	......	24	24	24
Lower extremity	9	57	......	5	......	3	......	74	1	1	5	7	81
Major, not included	2	6	......	1	......	2	......	11	......	......	2	2	13
Minor, not included	4	27	2	5	1	1	......	40	1	3	10	14	54
Total	119	433	7	59	6	44	3	671	6	10	287	303	974

During 1918, 13,752 patients were admitted to the hospital, an increase of 9,496 over the preceding year. The average number of days for each case was as follows:

TABLE 17.—*Admissions to Walter Reed General Hospital, 1918.*

Class of cases.	Officers.	Enlisted men.	Civilians.	
			Male.	Female.
Medical	23.631	25.841	18.972	18.886
Surgical	45.804	48.599	21.073	22.172
Venereal	59.307	44.119	28.000	13.000
Mental	57.546	63.829	31.333	21.000
Eye, ear, nose, and throat	19.880	26.398	13.782	14.482

The surgical operations performed during 1918, are shown by the following table:

TABLE 18.—*Surgical operations performed at Walter Reed General Hospital, 1918.*

	Officers, active.	Enlisted men, active.	Army Nurse Corps.	Total.	Retired officers.	Retired enlisted men.	All others.	Total.	Grand total.
Cranium	1	1	....	2	....	....	....	....	2
Eye	8	47	....	55	....	....	12	12	67
Nose	36	251	1	288	....	....	16	16	304
Ear	11	32	5	48	....	....	5	5	53
Throat	103	440	6	549	....	1	42	43	592
Face	5	20	1	26	....	....	2	2	28
Neck	5	23	....	28	....	....	1	1	29
Upper extremity	15	148	....	163	....	....	6	6	169
Abdomen	99	890	4	993	....	2	23	25	1,018
Gynecological:									
External	....	....	3	3	....	....	3	3	6
Internal	....	....	....	....	....	....	13	13	13
Lower extremity	22	248	1	271	....	....	10	10	281
Major, not included	31	260	4	295	....	....	5	5	300
Minor, not included	13	325	2	340	....	....	6	6	346
Total	349	2,685	27	3,061	....	3	144	147	3,208

The following is a summary of patients admitted to and disposed of from January 1, 1919, to December 31, 1919, inclusive.

TABLE 19.—*Admissions and dispositions, Walter Reed General Hospital, 1919.*

	Officers and enlisted men.	All others.	Total.
Remaining Dec. 31, 1918	1,766	47	1,813
Admitted from command, 1919	1,060	178	1,238
Admitted by transfer, 1919	3,077	69	3,146
Admitted otherwise, 1919	3,949	778	4,727
Total	9,852	1,072	10,924
Dispositions, 1919:			
Returned to duty	4,335	203	4,538
Died	88	24	112
Discharged for disability	2,127	....	2,127
Deserted	65	....	65
Transferred to insane asylums	27	....	27
Transferred to other hospitals	953	30	983
Otherwise disposed of	650	717	1,367
Total	8,245	974	9,219
Remaining Dec. 31, 1919	1,607	98	1,705

During the year 1919 over 1,200 cases of mental conditions were treated by the neuropsychiatric division. This statement does not accurately estimate the work of the section because there were many cases where the nervous condition was secondary, or the mental state, while abnormal, could not be classed as a definite psychosis and hence would not appear in these tables as such.

PROFESSIONAL ACTIVITIES OF THE HOSPITAL DEPARTMENTS.

SURGICAL SERVICE.

The chief of the surgical service held a daily conference with all chiefs of sections, and a Saturday meeting at which all officers on duty in the surgical service attended. At the Saturday meeting, hospital orders, memoranda, and other pertinent matters, or irregularities of the service, were brought to the attention of the officers attending. A surgical conference of one hour's duration was held weekly for all officers of the surgical service, the various section chiefs, in turn, presenting interesting clinical cases from their respective services.

The chief of the surgical service and his assistant daily inspected a group of surgical wards. During this inspection the chief of the service was consulted as to diagnosis and suitable treatment of unusual developments and complications arising in cases of the service. At least twice weekly he surveyed every case of the surgical section.

Requests for consultation between the sections for cases of the surgical service as well as those from other services for surgical conditions, were all referred through the chief of the surgical service to the special section concerned.

Amputation section.—A large number of amputation cases during the early part of 1919 were received from overseas. At least 90 per cent of these cases required operative treatment of some character before they could be fitted with artificial limbs. Postoperative infection, low grade, was frequently encountered, but the percentage of cases requiring re-operation was very small. The shop for fitting artificial appliances fitted as many as 156 cases in one month. The work of this shop improved in grade and amount after the soldier labor was replaced by skilled leg fitters. Noninfected stumps were fitted routinely six weeks after operation; others three weeks after healing. Numerous makes and types of buckets for thigh and leg fitting were purchased and tried. Some could never be used owing to improper molding. The physiotherapy department assisted in the massage of stumps and the application of elastic bandages to improve circulation and age shrinkage, and to make stiff joints mobile, and gave instruction in the use of appliances. Patients, after being fitted, were assigned to working classes for one hour's instruction daily. They usually became proficient in the use of the appliance in from three to four weeks and were then ready for discharge. All were instructed in the care of the stump, adjustments being made in the appliance as shrinkage occurred; and all were examined by the chief of section prior to discharge, for final instruction to determine the correctness of the fitting and the condition of the stump. All amputations, after fitting, were assigned to the occupational shop for instruction in the use of the appliance. Fittings for hip disarticulation and certain other stumps, which could not be properly fitted from stock, were ordered from outside artificial limb makers.

Dental section.—The dental service was divided into five subsections: Dental hygiene; X-ray; operative; prosthetic and oral surgery; and one dental officer for the survey of patients. The completion of the new dental building in August, 1918, and its immediate occupancy facilitated the successful detachment of the dental department. The new building consisted of a large operating room, adequate for nine operators, an oral surgery department, including an operating room, and an extracting and record room, and quarters for the officer of the day and sergeant in charge, together with necessary storage space. A dental X-ray laboratory and developing room were provided and an officer was detailed to care for this work. From three dental surgeons in 1918, the personnel of the department increased to nine dental officers, one of whom was on duty to render emergency treatment at all hours of the day and night. In January, 1919, the prosthetic department was organized for the construction of splints for maxillofacial cases and prosthetic restoration of all kinds. Five female technicians were on duty in the hygienic department of the clinic. This permitted the dental officers to spend their entire time operating.

Eye, ear, nose, and throat section.—In April, 1917, the eye, ear, nose, and throat section had a personnel of two officers. This was gradually increased to seven officers by the end of 1918. A division of the department into the eye section and the ear, nose, and throat section was made in July, 1918, to promote a more efficient service. At that time the number of patients had increased from 15 to 170, and it could be seen that better results could be obtained from a more complete specialization. Originally the section operated in the main building of the hospital, but soon outgrew the space allotted and was assigned to two temporary wards. In August, 1918, a special building had been constructed for the section, known as the eye, ear, nose, and throat building.

Empyema section.—In March, 1919, Walter Reed General Hospital was designated as one of the concentration points for chronic empyema. Most cases were primarily chronic, relatively few being acute, and those few practically all from the influenza epidemic of 1918–19. It is noted that no case on which a primary operation was done during the calendar year 1919 became a chronic case.

Maxillofacial section.—The first maxillofacial patients arrived at the hospital on January 15, 1919, at which time Walter Reed General Hospital was one of the three hospitals designated by the Surgeon General's Office to receive this class of patients. They were scattered throughout the surgical wards at first, until a chief of section was detailed to care for them, in February, when they were all assembled in three wards. Prior to March very little surgical operative work was done. On February 21, in compliance with instructions received from the Surgeon General, a thorough system of recording these cases was begun. At the end of the year over 800 photographs, a large number of wax models, drawings, and descriptions were made, illustrating all cases of interest from a scientific point of view. In addition, the dental splints made overseas or in the United States were mounted, with a view to their scientific interest, as there is no type of jaw fracture which is not represented in the series. Diagrammatic sketches of operations performed were made in many instances to supplement photographs and models. Cases were photographed in four classes, bone graft, scar excision, superficial plastics, and deep plastics.

Coordination with the dental surgeon, necessary in the treatment of most of the cases, was early established.

Neurosurgical section.—The majority of the cases of this service were the result of gunshot wounds incurred in action, while less than 5 per cent were the result of accident or disease. Peripheral nerve injuries constituted a large number of cases; 30 per cent were operated upon, 20 per cent of which showed the nerve to be divided. In suitable cases indicating the use of nerve grafts, two-stage or three-stage operations were done, the neuromata being approximated by tension sutures until resection of the nerve ends and neurorrhaphy could be accomplished.

Orthopedic section.—Prior to June 25, 1918, there had been no true subdivision of this section from the general surgical service, although in November, 1917, an officer was placed in charge of two wards in which there were some cases of an orthopedic nature, mainly foot, back, and joint injuries, from the surrounding camps. From June to December 31, 1918, the section materially increased in size, and on the latter date occupied 21 active wards. Toward the latter part of July, 1918, the first contingent of wounded from overseas was admitted to the orthopedic section, and by the end of the year the admissions averaged 300 monthly. The majority of these cases were deformities resulting from gunshot wounds received in action overseas, plus a large number of orthopedic conditions unsuccessfully treated at other general hospitals.

Roentgenological section.—A notable development of the hospital service during 1918 was in the X-ray department. In March, 1918, the new X-ray laboratory situated in the east wing of the third floor of the administration building was completed and ample facilities were then available for conducting every conceivable method of X-ray examination. The installation included the equipment for administering deep therapy.

The commissioned personnel of this department was increased to five, and the enlisted personnel was increased proportionately.

During December, 1918, three of the largest type of X-ray transformers were in daily use, and, in addition, six United States Army standard bedside X-ray units were in constant demand to execute numerous requests for examination of patients too ill to be moved.

An auxiliary X-ray laboratory was opened in Ward No. 61 to expedite the handling of overseas patients in the orthopedic department. A second auxiliary laboratory was opened in the dental infirmary.

The influenza epidemic which became alarming the early part of October, 1918, was made a subject of extensive study by means of X-ray investigation. More than 3,000 X-ray films of the pulmonary complications were made with the bedside machine, and in no instance was the patient removed from the bed.

The investigation of focal infection, which was begun in 1917, was continued throughout the year 1918. In certain types of patients the examinations were done as a routine on the teeth, accessory sinuses, genitourinary tract, gallbladder, and the gastrointestinal tract.

All amputations and bone-injury cases from overseas were examined on admission.

During 1919, the character of work done varied from month to month. The number of cases with purely battle casualties decreased and the number of more or less civil injuries and disease increased gradually. During the year there was a considerable increase in the relative number of gastrointestinal examinations over 1918. No X-ray burns or other untoward effects were noted. A separate room for roentgenotherapy was maintained and proved of considerable value in certain selected cases.

Septic surgery section.—The work of this service was concerned mostly with old war injuries from overseas and those unsuccessfully treated at other general hospitals, involving bones, and complicated by chronic suppurative osteomyelitis. In addition there were domestic and local septic cases, both bone and soft parts. The standardized Carrel-Dakin technique was closely followed in the treatment of these cases, and the results obtained fulfilled all expectations.

GENERAL MEDICAL SERVICE.

The general medical service was divided into the medical service, the neuropsychiatric service, and the receiving ward. The medical service comprised the officers' section, including examinations, ward, contagious or infectious disease section, and the noninfectious disease section. There was a chief of medical service, one assistant chief, two chiefs of sections, and nine ward surgeons or assistant ward surgeons. The neuropsychiatric section comprised one chief of section and five assistants. The medical service conducted the physical examination and furnished medical attendance for the Medical Department and civilian personnel at the hospital, a population in the neighborhood of 2,000. It also furnished a consultation service covering medical conditions in other services at the hospital. An officer of the medical service, at the receiving ward, admitted all patients to the hospital.

The scheme for operating the neuropsychiatric service comprised the professional staff and four specialized corps: The female nurses; the enlisted men, Medical Department; social welfare workers; and reconstruction aides. The nurses looked after the medications and those physically ill; the corps men cared for the physical comfort and material welfare of the patients; the social workers acted as liaison officers, securing touch with the patient's relatives, the study of former environments, and followed these features up so that the service would know how former patients progressed, and assisted in arrangements for the food; the reconstruction aides had charge of the vocational therapeutics, the principal aim being to keep the patients' minds along normal channels, assisting them in utilizing their resources and outlining the business side of life. The work of these corps naturally overlapped or dovetailed in the great effort to restore the patient to mental health by all possible means. The professional staff was in charge of the patients and directed all matters professional and otherwise having to do with their diagnoses, care, treatment, and environment. The service was also called upon to make careful examinations and render conclusions in cases of legal and moral responsibility. This brought the neuropsychiatric service in close touch with the Judge Advocate General's Department.

LABORATORY SERVICE.

At the beginning of the war the general laboratory of the hospital occupied two small rooms on the first floor of the main or administration building. As the hospital, at that time, was located entirely in this building and had not more than 200 beds, the laboratory facilities were adequate. No commissioned officers were in charge of the laboratory, the personnel consisting of one sergeant and two privates, one of the latter being a chemist of considerable ability.

In August, 1917, one captain was assigned to duty in the laboratory, and in September following, two lieutenants were added to the commissioned personnel. At this time the laboratory was not equipped for cultural bacteriology, tissue work, or complement fixation tests. Work of that character was sent to the well-equipped laboratory of the Army Medical School in Washington. Following the detail of commissioned officers to the laboratory, bacteriological apparatus was installed and the space allotted became overcrowded; and provisions for the care of a few animals had to be made beneath the tables in the laboratory. Plans were accordingly drawn up for what appeared then to be a spacious and commodious laboratory building. During the period 1917–18, the enlisted personnel was increased to six men. These men, together with three officers in the laboratory, made a very crowded place, but in spite of insufficient room and apparatus a great deal of routine and other work was accomplished, particularly along the line of investigations in pneumonia, empyema, and meningitis.

In March, 1918, the new laboratory, located just to the rear of the main building, although not entirely complete, was so far finished as to be in a usable condition, and the apparatus was removed from the main building to the special laboratory building. The personnel at this time was increased by the addition of two sergeants; and in April the enlisted personnel was much increased, the number varying from 18 to 30.

On moving into the new building, apparatus for the microscopic examination of tissues was installed, and subsequent to that time the laboratory did its own diagnostic tissue work instead of sending it to the Army Medical School. In the latter part of June, 1918, the Wassermann reaction was undertaken, and in addition there was subsequently established a complement fixation for tuberculosis. One room was devoted to clinical work, and a considerable amount of modern apparatus for the examination of blood and other body fluids was installed.

After the hospital had increased in size to nearly 2,000 beds, several expansions occurred in the laboratory service, and three ward laboratories were created. One of these, in ward 15, the admitting ward for the medical service, proved especially valuable; another in the genitourinary ward relieved the main laboratory of much routine work; and a third was established in the psychiatric ward. Female technicians were employed, one in April, 1918, one in the middle of August, and two in September following. They efficiently performed the work which otherwise would have required extra men. One was assigned to chemistry, one to serology, one to tissue work, and one to routine sputum and feces examinations.

The work of the laboratory increased with such rapidity during 1918 that it outgrew its new quarters in a few months, and in October it became necessary to turn over to the laboratory service a second frame structure near by, which had previously been used as a hospital storehouse. This was connected by a corridor with the main laboratory building.

Special attention was paid by the laboratory service to post-mortem examinations, and an effort was made to examine each case of death and to make a survey of the clinical record as compared with post-mortem findings. Many of the specimens were sent to the Army Medical Museum. The autopsy reports were so made as to give a brief clinical record of the cases; and sufficient copies were made to file one in the record office, keep a serial file in the laboratory, and transmit a copy to the Army Medical Museum with material sent there. Because of the policy established by the Surgeon General's Office of sending all known typhoid carriers to Walter Reed General Hospital, considerable work was done on this type of patient. Much work was done on the hemolytic streptococcus problem; and during the year 1919, 100 cultures of empyema, tonsils, throats, etc., were tested for sugar reaction. During the epidemic of influenza, 50 autopsies were performed and cultures made from various organs. A great deal of available pathological and bacteriological data was secured. With the establishment of a training school for nurses at the hospital, members of the laboratory staff gave instruction to student nurses in bacteriology, chemistry, etc. This work took the form of a course of lectures to the class as a whole, supplemented by laboratory exercises to the class in sections.

RECONSTRUCTION.

The first systematic trial of occupational therapy at Walter Reed General Hospital was initiated in February, 1918. Experiments were started in a workshop to determine the value of handicrafts in the cure of patients who needed definite functional treatment. To begin this experiment a single room was secured in what was originally the Lay homestead, dating from Civil War days, and tenanted by the post carpenter and his family. The work was necessarily limited to the simplest kind of carpentry, since the only tools available were portions of a set which the post carpenter had discarded.

After a preliminary trial it was found that such treatment of functional defects as had been planned was impossible without adequate equipment. The work which had been started proved of very definite value in keeping cheerful and contented and physically well the patients who were engaged in it. With this value in mind, the shop was continued for patients who cared to work in it.

About the 1st of March, 1918, the Division of Physical Reconstruction of the Surgeon General's Office instituted a survey of the various types of cases at Walter Reed General Hospital to lay the foundation for the establishment of a well-equipped shop and school. In April, 1918, an expenditure of $3,000 was authorized to equip the shops with the necessary tools, and expert educational directors were assigned to the work.

The fundamental aim of the work in the department of occupational therapy was curative. Specifically, its purpose was to help each patient to find himself and function again as a whole man—physically, socially, educationally, and economically. It sought to restore him physically by helping to restore his body, so far as possible, to its normal condition; socially, by enabling him to feel that despite his physical handicap he might still be a self-reliant and self-respecting member of the community; educationally, by furnishing him with such training as would increase his personal efficiency; and economically, by providing him with a means of earning a comfortable livelihood so that with his return to civil life he might be an economic asset instead of a liability. The problem thus broadly outlined was a new one. Upon each instructor in the department there fell a share of the responsibility for working out a solution.

and this meant that he must get in closest personal touch with his patients. The activities of the organization of the department were therefore the outgrowth of many conferences at which were discussed the observations of the various instructors, and their significance.

At the close of the year 1918 the scope of the work included:

Academic.

English, French, Spanish.
Arithmetic, geometry, algebra, trigonometry.
Penmanship, left-hand writing.
Civil Service preparation.
Physics, chemistry.
History.

Commercial.

Commercial arithmetic and English.
Shorthand, stenotype.
Filing and recording.
Bookkeeping.
Commercial law.

Agricultural.

Truck farming out of doors.
Vegetable forcing under glass.
Growing of flowers.
Textbook studies.

Printing.

Hand composition.
Linotype operation.
Presswork.

Mechanical and electrical.

Automobile repairing.
Oxyacetylene welding.
Wiring for bells, lights, and motors.
Telegraphy, radio operation.
Motion-picture machine operation.
Machine-shop practice.
Electrical studies.
Mechanical studies.

Drafting.

Shop drawings, details and assembly.
Tracing and blue prints.
Architectural drawings.
Topographical drawings.
Freehand sketching.

Woodworking.

General carpentry.
Framing, cabinet work.
Pattern making.

Display painting.

Lettering.
Sign painting.
Poster making.

Arts and crafts.

Wood carving.
Jewelry making and repairing.
Silver smithing.
Watch and clock repairing.
Engraving.

Leather work.

Shoe repairing.

Physical education.

Athletic sport.
Calisthenics.
Gymnastics.

Rug weaving.

Fundamentals of rug weaving.
Rug repair.
Loom work.
Dyeing.

The department of occupational therapy was divided into five sections: Administrative, psychological and statistical, general or academic, technical, and recreational.

The administrative section was charged with the ordinary duties of a record and property office. A large staff of clerks was required because of the rapidity of the growth of the department, the large "turnover" of patients, and the compilation of reports and data for the Surgeon General's Office.

The psychological and statistical section was primarily responsible for the psychological and educational surveys of individual patients. In this section an extensive study was made of the learning problems encountered under the curative workshop schedule, the adaptation of curative methods to particular patients and specific disabilities, the application of trade tests and vocational guidance, and the measuring of intelligence by approved methods.

The section was especially successful in measuring the increase and strength of the movement of ankylosed joints and stump limbs, such measurements serving the double purpose of furnishing an incentive and encouragement to the patient, and of informing the surgeon and physiotherapist as to the rate and locus of improvement.

The academic section offered a curriculum which covered a fairly wide range of subjects, from the most elementary to those of high-school grade. This section succeeded in reaching large numbers of patients who had been denied the advantage of courses which required some academic background.

The technical section worked out a broad program which offered valuable instruction to the men who were mechanically inclined. The automobile department early seized upon the idea of doing practical work repairing cars. This gave the men the opportunity to put into practice what they had learned in class discussions. The work in the machine shop was at first hampered by lack of facilities and rooms for the proper conduct of work, but with the construction of new shops, the purchase of machinery, and, with the settlement of the type of power, this work became a valuable part of the curative program. The drafting division aroused the interest of the men, and gratifying results were obtained along that line. The farm and the greenhouse proved profitable. The woodworking division in addition to making a good record as a curative agency did a good deal of post repair work and made possible many conveniences in the new shops. The rug-weaving division always made an appeal to the patients, and it developed a number of new types of curative exercises. The men were interested also in the jewelry division and produced some particularly fine work of this character. The modeling developed the artistic temperaments of some men and provided them with a pleasing occupation while in the hospital.

The recreational section handled the formal exercises and play hours of the patients, and under skilled instructors offered the following work:

(1) Daily lectures on personal and community hygiene.
(2) Classes in general calisthenics, using largely natural movements
(3) Special instruction for amputation cases and special classes for disabled groups.
(4) Classes in athletic and folk dancing.
(5) Instruction in boxing, fencing, wrestling, bag punching, swimming, jiu-jitsu, and target shooting.
(6) Games—volley ball, handball, tennis, indoor baseball, basket shooting, and competitive group games.
(7) Course in military drill and Army regulations for men returning to duty.

On February 15, 1918, the first aides were employed by the hospital. They began by teaching some of the bed patients in the orthopedic wards to knit colored wool squares for blankets, and the men welcomed the opportunity to do something. Gradually the work spread through the different wards; and with the increase of facilities and enlargement of personnel, a variety of activities broadened the occupational interests of the wards and results were both remedial and palliative.

To train the aides adequately for their work, a school for reconstruction aides was started late in the fall of 1918, and continued until after the signing of the armistice. The course of training consisted of practical work with the patients under the supervision of experienced aides, and of lectures of both a general and a professional nature.

In the latter part of the summer of 1918, the department of occupational therapy instituted weekly meetings of the staff and patients, which were held in the Red Cross house or the post auditorium. The purpose of these meetings was to present to the patients the advantages of taking work with the department of occupational therapy, and attractive as well as instructive programs were offered. This particular department was a training and demonstration school for other hospitals and an experimental laboratory for trying out methods of teaching, outlines of subject matter, types of equipment, and the selection and training of personnel. To Walter Reed General Hospital belongs the distinction of being the first American hospital to have a professional psychologist on its staff.

The rapidity with which the personnel and work of the department of occupational therapy expanded is evidenced by the erection, during 1918, of five curative occupational buildings.

The apparatus in use in the hydrotherapy, electrotherapy, gymnasium, and baking departments of the hospital during 1917–18 occupied four rooms.

The activities of the department of occupational therapy continued throughout the year 1919, and in September the first classes of nonpatients (detachment, Medical Department, and detachment, Quartermaster Corps, and nurses) were organized. Approximately 6 educational and 13 vocational subjects were offered in these classes. The total attendance ranged from 160 to 170.

In the department of physiotherapy about 265,000 treatments were given to approximately 3,000 patients during the year 1919.

RECREATION.

Recreation at the hospital was in general under the charge of the educational and recreation officer, who had under his immediate supervision the recreational work for patients provided by the Red Cross, and activities for the hospital staff and personnel provided from various sources. This included the recreational activities of the Young Men's Christian Association, the Knights of Columbus, the Jewish Welfare Board, and the War Camp Community Service, while they functioned on the post.

Practically all indoor recreation for patients was provided in the Red Cross Convalescent House and in Service Club No. 1; entertainments for officers, nurses, aides, and enlisted men were provided in the Service Club, gymnasium, post auditorium, in the Young Men's Christian Association, and Knights of Columbus buildings on Dogwood Street.

From 3 p. m. to 10.30 p. m. on Monday, Tuesday, Thursday, and Friday of each week, and from 1 p. m. to 10.30 p. m. on Wednesday and Saturday, a program of recreation was arranged wherein all groups in the hospital—patients, officers, enlisted men, nurses, and aides—were offered the opportunity of some form of entertainment. Every night in the week moving pictures made up a portion of the program; other activities included dances, musicales, classes in dancing, community sings, lectures, addresses by men and women prominent in their special fields, sightseeing trips; and, in season, excursions to important places of interest like Mount Vernon and Great Falls; corn roasts, picnics, theater parties, with supper at the Red Cross canteen, athletic games by post teams, free trips to the ball park of the American League, dramatics, masquerades, and the like.

The nurses had a weekly program of activities in their recreation house; the aides provided for themselves a clubhouse near the post; and the service club and the recreation room of the enlisted men's barracks offered additional places for unscheduled recreation.

ATHLETICS.

Opportunities were offered in the appropriate seasons for baseball, basket ball, tennis, handball, quoits, track sports, volley ball, indoor baseball, and other gymnasium games, boxing, wrestling, bowling, and swimming. Two organized baseball teams from the Medical Department played regular schedules during the baseball season, both at the post and at neighboring posts, and several teams of patients were organized for special games. A basket-ball team was organized and played an unusual number of successful games. Tennis tournaments for patients, nurses, aides, officers, and detachment men were conducted. Three special days for meets were held, with events and prizes for detachment men and patients.

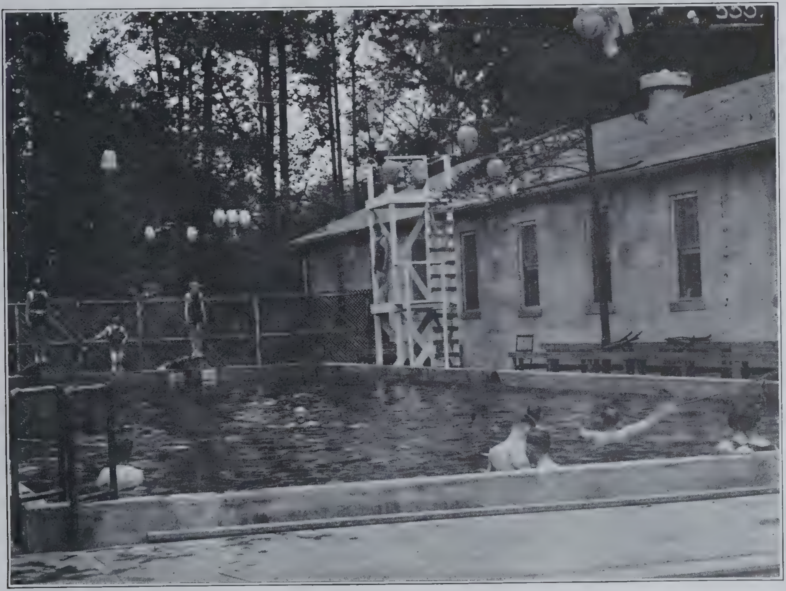
FIG. 97.—Hospital swimming pool, Walter Reed General Hospital.

A baseball and athletic field was made on a plot of ground opposite the reconstruction buildings. Bleachers were conveniently placed in the shade of tall trees. Two tennis courts were constructed for the nurses near their quarters, and two for general use were constructed, one outside of building 76, the other at Fourteenth and Dahlia Streets; and three other courts were built by the welfare organizations. These were freely available for the use of the patients and enlisted personnel.

Through the generosity of a former field director of the Red Cross at the hospital, a modern outdoor cement swimming pool, 33 by 85 feet, with dressing rooms, showers, etc., was built and presented to the hospital.

Two bowling alleys were constructed in the recreation room of the enlisted men's barracks.

WELFARE ORGANIZATIONS.

THE RED CROSS.

The welfare organizations functioned under the direction of the commanding officer and under the supervision of the Red Cross, as prescribed in regulations. The American Red Cross utilized its building for all of the activities authorized for this society by the Secretary of War; and carried out its program with a personnel staff of 93, consisting of the field director, assistant field director, three home service men, three entertainment men, one accountant, four stenographers, and 80 ward workers and house entertainers.

Great effort was made to see that all the patients admitted to the hospital were given every possible attention and service within the jurisdiction of this organization. The home service department rendered a most valuable service. Their record shows that more than 7,556 file cases were taken care of, besides the hundreds of dollars worth of Liberty bonds and State bonuses secured and the thousands of miscellaneous matters taken up and straightened out for the men.

The entertainment department entertained over 30,000 patients. Theater parties were conducted on three days a week for all able patients, and vaudeville acts were secured and brought out to the Red Cross house on Wednesday afternoons for the entertainment of those who were in wheel chairs, or who were too invalided to go out of the hospital. World-famous entertainers were brought to the Red Cross House from time to time. This building was open every day from 10.30 a. m. to 10 p. m. Two dances were given each week, and a regular moving-picture program operated weekly. Entertainments of every conceivable kind which would have a good effect on the morale of the men were secured and given in the wards and in the convalescent house. Victrolas were placed in the wards where it was permissible, and were adequately supplied with records. Games of various kinds were provided for use in the wards and in the convalescent house.

Letter writing was stimulated to such an extent that 800,000 sheets of paper and 500,000 envelopes were given out to the men. Quantities of approved supplies were distributed to the patients for their comfort and pleasure. A diet kitchen was established by the Red Cross in which were served extra supplies.

YOUNG MEN'S CHRISTIAN ASSOCIATION.

In 1918, the Young Men's Christian Association began its activities at Walter Reed General Hospital in a room in the basement of the main building. When the Red Cross building was completed the Young Men's Christian Association was given the end of the main room of that building where they remained until the completion of the "Y" hut on Dogwood Street, just across from the hospital reservation.

On Christmas Eve, 1918, the "Y" hut on Dogwood Street was formally dedicated and the greatly enlarged activities of the Young Men's Christian Association were begun and continued until the end of the war period.

The social work of the Young Men's Christian Association was an important factor in the life of the post. Every Thursday a vaudeville performance was given in the post auditorium with the aid and cooperation of the War Camp Community Service. Many prominent actors and actresses, as well as local talent, appeared. From time to time special concerts were put on in the auditorium and in the "Y" hut. Every Saturday night moving pictures were shown in the post auditorium, or, when the weather permitted, on the lawn near the main hospital building.

The hut, however, was the real social center of the "Y" activities. It was open from 8 o'clock in the morning until 10.30 at night, during which time an average of over 600 men made use of its advantages daily. One or more dances were given each week. One of these each month was for officers, nurses, and aides, the others being for enlisted men. Two women members of the Young Women's Christian Association who were assigned to the hut served light refreshments several nights each week in the social room.

During 1919, one secretary divided his time between work in the wards, visiting the men and distributing such articles as paper, cigarettes, matches, and candy.

In religious work the Young Men's Christian Association and the chaplain cooperated in conducting services Sunday mornings and evenings, with special music and nationally prominent speakers.

The gymnasium in the "Y" hut was the largest on the post, being 50 by 110 feet and 16 feet high. The Young Men's Christian Association played a large part in the athletic program at the Walter Reed General Hospital. At all times there was at least one physical director, and during the summer months two, one working at the hut and in the outdoor activities and the other in the physiotherapy section of the hospital. The Young Men's Christian Association used and gave away more than $3,000 worth of athletic equipment. The result of this ample equipment was that the gymnasium was kept busy all the while during the winter months, and the diamonds, courts, and vacant spaces near the post showed great activity in good weather.

In its educational work 15 different subjects were taught in the night classes.

KNIGHTS OF COLUMBUS.

The Knights of Columbus hut opened November 24, 1918, and soon became a scene of a great number of recreational activities, amusements, and pleasures for the many service men and women stationed at the hospital. Arrangements were made whereby three moving-picture shows, an enlisted men's dance, and officers' and nurses' dance were given for entertainment nearly every week. At frequent intervals boxing and wrestling matches were staged by some of the best talent obtainable. Vaudeville shows were also a feature of the activities at the hut.

JEWISH WELFARE BOARD.

The Jewish Welfare Board maintained headquarters in a house on Butternut Street, one-half block from the main entrance to the hospital. This was fitted for a clubhouse especially for the Jewish men. The secretary in charge maintained an excellent program of activities, including both social events and religious services. The secretary of the Jewish Welfare Board visited all wards at regular intervals and contributed to the comfort of patients whenever possible.

SERVICE CLUB NO. 1.

Service Club No. 1 was opened December 15, 1919, in a building provided by the National Catholic War Council. The construction work on the building began about the 1st of September. It included a cafeteria service on the lower floor, with a dining room seating 125 persons. The main floor was used for general purposes as a visitors' house. The upper floor had 11 rooms, rented to transient visitors, particularly to friends and relatives of patients in the hospital. A regular program of entertainments and socials was held in the club.

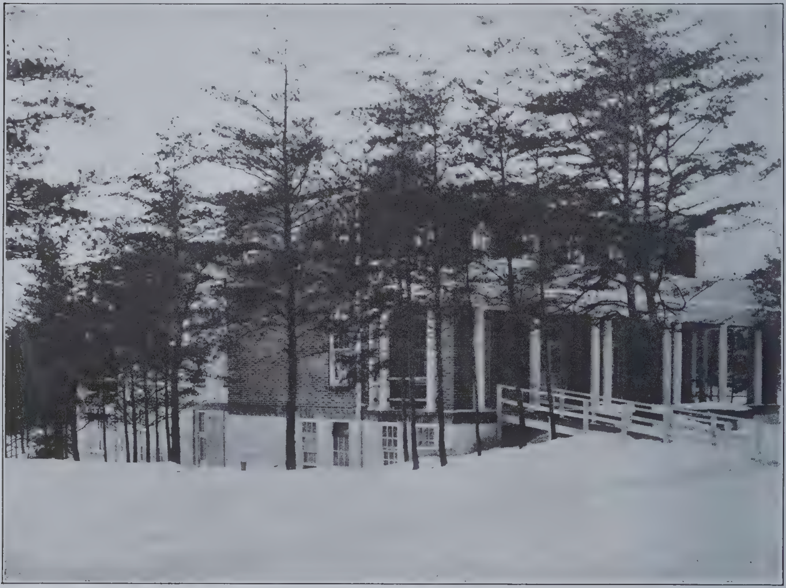

FIG. 98.—Service Club, No. 1, Walter Reed General Hospital.

HOSPITAL NEWSPAPER.

The hospital newspaper, *The Come-Back*, published its first number on December 4, 1918. It was frankly aimed to be the spokesman of the patients in the hospital, to be a medium of news for these men, and to present to America the picture of the soldier who, having performed his service, asks nothing of the world but the chance to get back, and who, in spite of wounds and the heartbreak of absence from home, resolves to put on a brave and contented front. The words of the first editorial, "This is going to be a cheerful sheet—or bust!" sum up the policy that was maintained throughout. It was through the constant good cheer of this paper that the patient-soldiers took their cue of self-discipline and good humor.

Journalistic features were listed in the achievements of the little paper: It originated the "Port of Missing Men," by which lost men were advertised widely among their old comrades; it led the fight for the abolition of the street salesman in uniform; in its column "The Army in Congress," it presented an authentic digest of activities relating to the Army; and it inaugurated a series of illuminating articles on insurance and compensation.

Two thousand copies of the *The Come-Back* were distributed free to the patients and personnel of the hospital through the generosity of the American Red Cross. Eventually *The Come-Back* ran an outside circulation of 30,000 copies.

All of the work on the paper was volunteered; no salaries or commissions were paid to the enlisted men, patients, or officers who cooperated in putting the paper together.

The profits from the paper were presented to the donation fund in the Surgeon General's Office. One of the contributions to the Walter Reed General Hospital from these profits was a cylinder press and a printing outfit valued at $13,000.

THE LIBRARY SERVICE.

The American Library Association founded, equipped, and maintained a library at the Walter Reed General Hospital for the purpose of providing with reading matter all persons connected with the institution. This service had a twofold work: That done in the main library and that done in the wards. The main library, situated in the Red Cross convalescent house, contained about 6,500 books, a large percentage of these being foreign works and up-to-date business and technical books. On the reading tables were most of the popular magazines, besides a large number of scientific and technical periodicals. In addition to books and magazines, were home newspapers from all over the country. This main library was for the use of all and was used by patients, officers, enlisted men, nurses, aides, and the instructors in the vocational school. It was open every day, Sundays and holidays included, from 9 a. m. to 9 p. m., with a trained librarian in charge. From this main library collections were sent to the Young Men's Christian Association, Knights of Columbus, Jewish Welfare Board, and to the nurses' Red Cross home, and the reconstruction aides' club. Separate wards asking for small collections for their sun parlors were also supplied. The American Library Association also subscribed for magazines for the three welfare organizations, the Young Men's Christian Association, Knights of Columbus, and the Jewish Welfare Board, for use in their houses, and the reconstruction aides' club.

The ward work was the part of the service most carefully planned. Every ward was visited at least twice a week by one of the librarians with a truck of books and magazines from which a man who could not leave his ward or could not carry a book home from the main library could choose the reading he wished. During these visits the men had a chance to ask for any particular books they desired, or the librarian suggested one as helpful to a man in his chosen profession. The isolation wards were also visited, but the books and magazines left there were later destroyed, so some care was taken in the choice of books carried to these wards.

There was a close cooperation of the aides and instructors of the schools of the reconstruction department. Many textbooks were furnished, especially where the classes were small and only a few copies were needed, or when a man showed a sudden interest in a particular course and the school text had not arrived. Many men became interested in some subject through a book read and were thus led to study further in the schools or came to the library for supplementary reading after taking a course in the schools.

On November 1, 1919, the Army assumed charge of the work of the American Library Association in the Army hospitals, and the library was placed under the educational and recreational branch of the War Department.

DEMOBILIZATION.

At the beginning of 1919, 1,090 enlisted men were on duty in the hospital, practically all of whom were emergency men. The discharge of these men proceeded slowly, depending upon replacement. Frequently during the year emergency men from other hospitals that had been closed were sent to Walter Reed General Hospital for duty. Hence, the number of men actually discharged, as shown in the table below, is greater than the number of men on duty on January 1.

Number of men discharged each month.

January	32	August	200
February	46	September	110
March	60	October	152
April	61	November	194
May	59	December	83
June	188		
July	193	Total	1,378

For the purpose of determining the urgency of the various claims for discharge on the part of the enlisted men and the needs of the hospital, a board of officers appointed to consider claims for discharge met from time to time, and, in the latter part of the year, weekly. This board ascertained the needs of each case as presented by the application and supporting affidavits, and placed the names of the approved applications on a priority list in the order of the emergency of the case presented. All men were discharged in the order indicated on that list. This order was deviated from only in very exceptional cases where retention in the service would have caused manifest hardship to the applicant and immediate discharge was essential. At the end of the year there were 90 emergency men remaining. Of these about 20 elected to remain in the service.

Statistical data, Walter Reed General Hospital, Takoma Park, D. C., April, 1917, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate Number of days lost from sickness.	
		From command.	From other sources. By transfer.	From other sources. Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
April	117	23	70	64	274	63	1	17	....	....	....	....	65	127	1	3,912	.....
May	128	12	99	76	315	123	4	....	....	....	1	....	48	137	2	4,056	55
June	139	15	201	88	443	170	3	14	1	....	2	....	41	209	3	1,004	98
July	212	25	210	31	478	186	1	24	1	....	....	....	20	242	4	6,586	88
August	246	25	260	73	604	299	3	25	....	....	10	....	33	233	1	7,394	61
September	234	28	266	71	599	224	1	25	1	....	7	2	48	288	3	7,918	32
October	291	34	428	79	832	288	6	25	5	....	10	....	52	438	8	10,518	220
November	446	47	580	95	1,168	525	12	1	....	....	9	....	99	518	4	14,289	180
December	522	58	490	78	1,148	361	12	39	....	....	3	....	50	683	....	11,733	114
1918.																	
January	683	75	777	100	1,635	737	27	40	....	....	3	1	20	799	8	21,808	248
February	807	72	876	73	1,828	817	17	26	....	....	1	....	65	893	9	27,683	279
March	902	89	946	86	2,023	865	29	31	....	....	1	4	33	1,053	7	30,585	196
April	1,060	85	1,161	69	2,375	1,046	20	36	....	....	1	9	17	1,241	5	34,197	221
May	1,246	60	520	313	2,139	863	14	24	3	....	1	18	28	1,182	6	36,704	167
June	1,188	40	516	414	2,158	636	7	55	2	....	1	8	27	1,419	3	53,216	242
July	1,422	47	480	521	2,470	736	5	50	7	....	1	19	31	1,609	12	46,192	383
August	1,621	22	347	698	2,688	873	7	65	7	....	3	55	19	1,649	10	51,436	319
September	1,659	118	237	911	2,925	728	14	62	1	....	1	10	18	2,063	28	50,972	337
October	2,091	252	232	1,285	3,860	1,718	124	54	3	....	6	125	38	1,766	26	64,802	1,030
November	1,792	77	243	732	2,844	709	10	110	9	....	5	44	32	1,912	13	55,319	464
December	1,925	150	173	959	3,207	803	25	134	4	....	2	372	54	1,793	20	60,888	422
1919.																	
January	1,813	211	394	784	3,202	613	24	89	....	....	6	405	87	1,963	15	61,426	448
February	1,978	200	204	590	2,972	492	14	222	1	....	4	214	55	1,941	29	52,490	517
March	1,970	145	436	481	3,032	675	16	202	1	....	14	119	79	1,899	27	60,616	902
April	1,926	85	405	312	2,728	416	3	151	1	....	....	54	86	1,989	28	56,109	765
May	2,017	70	386	396	2,869	332	7	140	26	....	....	46	126	2,163	29	63,019	983
June	2,192	58	452	288	2,990	415	9	159	7	....	1	35	115	2,222	27	65,313	798
July	2,249	78	200	416	2,943	325	12	126	5	....	....	15	144	2,276	40	71,534	1,009
August	2,316	26	106	359	2,807	302	6	139	6	....	....	31	149	2,133	41	66,123	1,271
September	2,174	40	63	399	2,676	262	4	237	4	....	....	17	134	1,989	29	60,688	1,087
October	2,018	86	363	276	2,743	248	6	251	7	....	1	16	160	2,014	40	54,276	168
November	2,054	84	89	215	2,442	222	2	206	1	....	....	20	52	1,892	47	59,182	219
December	1,939	88	49	230	2,306	247	7	187	7	1	....	42	140	1,641	34	9,269	998

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.									
April	5	15	14	34	September	3	7	7	17
May	5	13	11	29	October	3	7	7	17
June	5	13	11	29	November	3	7	7	17
July	5	13	11	29	December	3	8	7	18
August	5	13	11	29					
September	4	17	9	30	**1919.**				
October	4	17	9	30	January	3	8	7	18
November	4	17	9	30	February	3	8	7	18
December	4	17	9	30	March	1	8	7	16
					April	1	8	7	16
1918.					May	1	8	7	16
January	4	17	10	31	June	1	2	7	10
February	4	17	9	30	July	1	8	8	17
March	4	18	10	32	August	1	8	8	17
April	4	18	10	32	September	1	8	8	17
May	4	18	11	33	October	282	342	8	632
June	4	18	11	33	November	282	342	8	632
July	4	18	11	33	December	282	342	8	632
August	1	10	6	17					

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, Walter Reed General Hospital, Takoma Park, D. C., April, 1917, to December, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.		
1917.									
April	17	....	....	17	145	13	158	31	....
May	16	....	....	16	144	15	159	38	....
June	19	....	....	19	155	23	178	47	....
July	22	....	....	22	197	23	220	44	....
August	26	....	....	26	208	29	237	52	1
September	35	1	....	36	200	34	234	64	9
October	37	1	1	39	211	50	261	54	3
November	32	1	1	34	307	53	360	45	3
December	43	2	1	46	324	67	391	80	1
1918.									
January	43	2	1	46	366	68	434	85	1
February	53	2	1	56	439	106	545	108	1
March	58	3	2	63	467	105	572	92	....
April	62	4	3	69	529	113	642	149	....
May	68	4	3	75	597	121	718	140	....
June	78	5	2	85	730	125	855	146	....
July	87	8	3	98	699	133	832	147	....
August	98	8	5	111	786	164	950	148	1
September	109	9	5	123	882	161	1,043	146	....
October	107	9	6	122	919	170	1,089	130	....
November	110	13	8	131	992	210	1,202	157	....
December	114	12	9	135	1,090	262	1,352	142	....
1919.									
January	113	13	8	134	1,102	257	1,359	142	....
February	130	16	9	155	1,048	229	1,277	157	....
March	125	18	8	151	1,007	203	1,210	163	....
April	124	17	14	155	984	176	1,160	148	....
May	156	11	17	184	919	117	1,036	144	....
June	161	21	16	198	911	92	1,003	170	....
July	172	15	7	194	900	39	939	177	....
August	129	23	10	162	739	81	820	184	....
September	109	21	15	145	642	77	719	156	....
October	96	19	7	122	732	78	810	185	1
November	93	20	9	122	685	92	777	161	1
December	97	17	8	122	686	94	780	165	1

CHAPTER XVI.

THE GENERAL HOSPITAL (CONVERTED).

GENERAL HOSPITAL NO. 2, FORT McHENRY, BALTIMORE, MD.[a]

Fort McHenry, perhaps the best of the few examples of the "Star Fort" type, or bastioned polygon, in this country, is chiefly famous for its protection of Baltimore at the time of the bombardment by the British fleet in 1814. It is also notable as commemorating the occasion upon which Francis Scott Key was inspired to write the poem which afterwards became our national anthem—The Star Spangled Banner. The construction of the fort was begun in 1776 as a shore battery, but it was not until 1794 that the star fort was built. It was named in honor of General Washington's Secretary of War, James McHenry, of Baltimore, and was constructed during Washington's administration. In 1795 the Government acquired that part of the reservation on which the star fort stood, and in 1838 the entire reservation was ceded. In 1914 the area was transferred to the city of Baltimore for use as a public park, with the understanding that the fort would be occupied by the Government in time of war.

PROCUREMEMT OF STRUCTURES.

On June 20, 1917, the Surgeon General recommended that Fort McHenry be turned over to the Medical Department for general hospital purposes. Approval for this was given by the Secretary of War on August 2, following.

On the morning of August 22, 1917, a sergeant and 15 enlisted men of the Medical Department arrived at Fort McHenry and unfurled the American flag on the remains of the historic old star fort. On the 29th of the same month a medical officer arrived and assumed duty as commanding officer of the hospital. From then on various officers reported and were assigned to duties in the different departments of the forming organization.

At the time when Fort McHenry was taken over for use as a hospital the buildings and grounds were the remains of a former coast artillery post which had been unoccupied for several years, and in consequence the place was considerably out of repair. The Government was just building three brick buildings to be used as an immigration station.

The preliminary efforts of those in charge were to prepare temporary quarters for the administrative forces and barracks for the enlisted men of the Medical Department detachment. The brick building to the right, as one entered the gate to the fort, was the first one to be renovated, and for several months was used as headquarters as well as a barracks and mess hall for the personnel then on duty. In addition to cleaning and repairing the buildings which had been on

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[a] The statements of fact appearing herein are based on the "History, General Hospital No. 2, Fort McHenry, Md.," by Maj. A. P. Herring, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

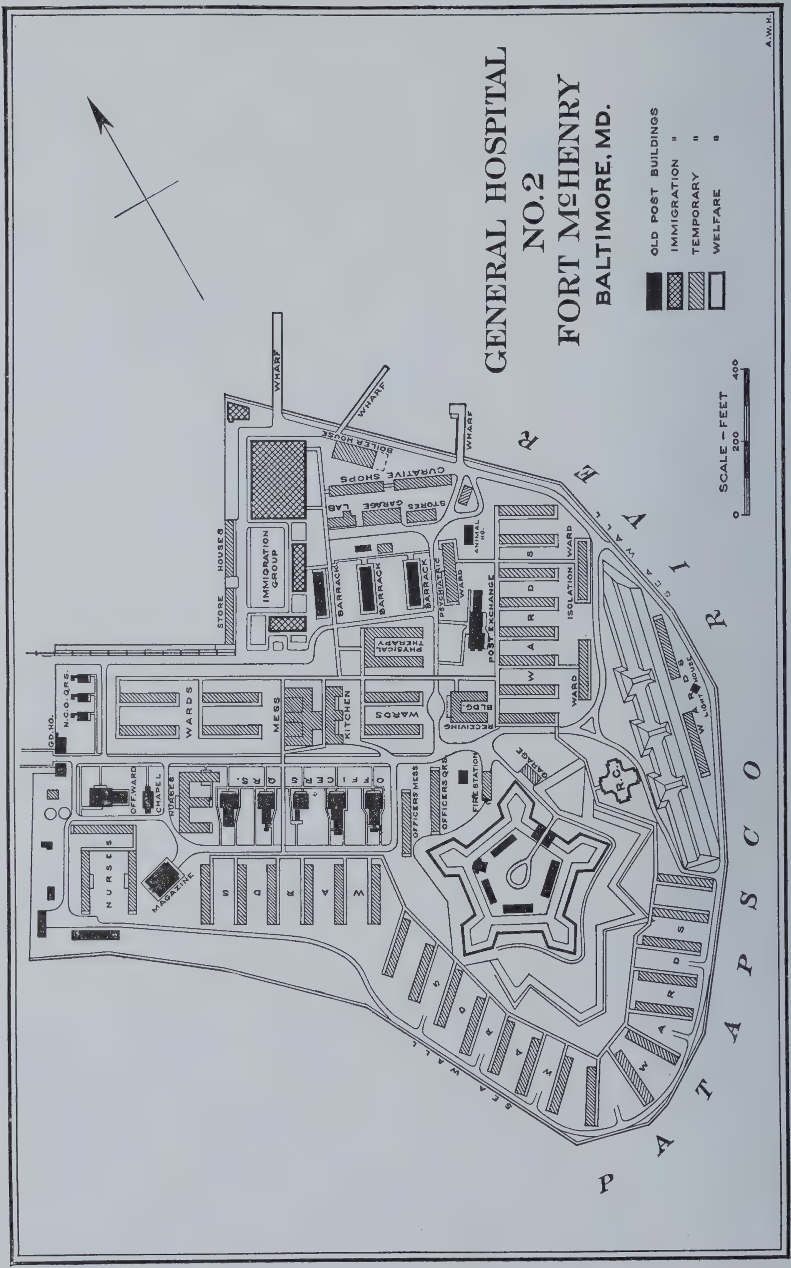
GENERAL HOSPITAL
NO. 2
FORT McHENRY
BALTIMORE, MD.
▮ OLD POST BUILDINGS
▨ IMMIGRATION "
▨ TEMPORARY "
☐ WELFARE "
SCALE – FEET
0
200
400
A.W.H.
PATAPSCO RIVER
SEA WALL
WHARF
WHARF
WHARF
BOILER HOUSE
CURATIVE SHOPS
LAB.
GARAGE
STORES
STORE HOUSES
IMMIGRATION GROUP
BARRACK
BARRACK
BARRACK
ANIMAL HO.
PSYCHIATRIC WARD
POST EXCHANGE
PHYSICAL THERAPY
ISOLATION WARD
WARD
WARDS
WARDS
WARDS
WARDS
WARDS
WARDS
MESS
KITCHEN
RECEIVING BLDG.
GARAGE
FIRE STATION
OFFICERS QRS.
OFFICERS MESS
OFFICERS QRS.
NURSES
NURSES
OFF. WARD
CHAPEL
MAGAZINE
GD. HO.
N.C.O. QRS.
R.C.
LIGHT HOUSE

FIG. 99.

the post since the Civil War, it was necessary to clean up the grounds, as the roadways and walks were overgrown with grass and weeds. At this time no new construction had been definitely planned, and the future of the hospital was still being determined by the Surgeon General.

On October 5, 1917, a group of 60 Medical Department men arrived from Fort Ethan Allen, Vt., and were housed for a while in the chapel and guardhouse, but later were moved to one of the brick barrack buildings which had formerly been used by the Coast Artillery. In this same building a mess and permanent headquarters for the detachment were established.

The first patients to be on sick report were two members of the Medical Department detachment who were admitted as patients on October 18, 1917. The operating room, equipped for emergency operations, was opened on the 29th, in the old post hospital building, afterwards barracks No. 2.

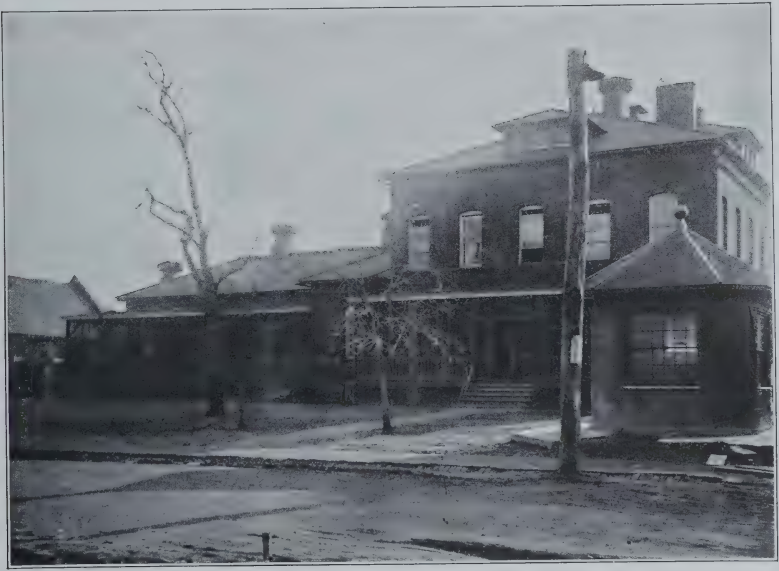

FIG. 100.—Old Post Hospital, Fort McHenry. Used as first administration building and officer-patients' quarters.

Arrangements had already been made with the Mercy, Johns Hopkins, and the Baltimore Eye, Ear, Nose, and Throat Hospitals to send a group of 10 detachment men at a time to each of these institutions to take a four-weeks' course of special training, particularly in surgery.

Plans were forwarded from Washington on September 2, 1917, for new buildings which, with the three brick immigration buildings, were to be completed and turned over to the Army and which would accommodate 1,000 patients. The work on the new cantonment buildings was begun on December 24. However, the 1st of June, 1918, found the hospital occupying temporary quarters in the old brick barracks and any other of the original buildings at the post that could be made habitable. From September to December, 1917, the following changes had been made, as appear in the report of the commanding officer to the Surgeon General:

By December 31, 1917, all of the old buildings had been completely renovated; new sewers had been constructed and the old ones cleaned; necessary plumbing had been installed in the buildings; and the following activities had been placed in operation: Wards with a total bed capacity of 200; the barracks and mess; officers' quarters and mess; the quartermaster clothing room and the commissary; the bakery; the quartermaster shop; shops for the plumber, the carpenter, the electrician, and the painter; a garage and stable; a post exchange; a reading room; a writing room; a pool room; a tailor shop; and a barber shop.

The first new building to be completed was the nurses' home No. 1. In the meantime construction was going on at a rapid pace on 18 one-story frame buildings, including a central kitchen and mess, a receiving ward, and an isolation ward. At the same time that the new buildings were being constructed work on the immigration buildings was being rapidly pushed, and by February, 1918, the new administration building—one of the immigration buildings—was occupied.

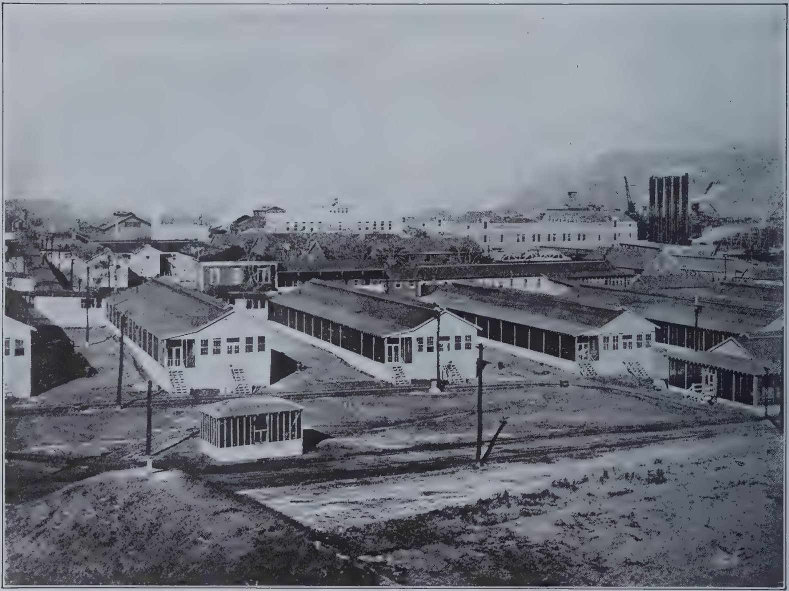

FIG. 101.—Cantonment wards. The first to be erected at General Hopital No. 2.

Word was received that the first group of overseas patients would soon arrive; and as the immigration buildings were not completed and the regular hospital buildings were still in process of construction, it was necessary to provide temporary quarters in one of the old brick buildings which had been in existence since the Civil War.

In February, 1918, the immigration buildings were completed, the receiving building having a capacity of 800 beds. The surgical building was completed and equipped with X-ray, eye, ear, nose, and throat apparatus and a modern surgery. On February 22 the second group of 107 overseas patients arrived and on the 28th 248 more patients came. During this period the hospital was used largely as a clearing house, patients arriving from the port of debarkation, Hoboken, on special trains, being reclassified and then transferred to definite points such as New Haven, Conn., Fort McPherson, Ga., and Cape May, N. J., according to the nature of their disabilities.

In the spring of 1918, due to the necessity for augmenting every hospital to its fullest extent, buildings with a capacity of 1,200 beds were added to this hospital. Owing to the limited area and the resultant congestion, these buildings were constructed of tile; whereas, those in the first project were of frame; all, however, were equipped with steam heat and other modern improvements.

Additional buildings were subsequently erected to meet new needs, causing further congestion; in consequence of which, considerable fireproofing of the frame buildings was necessary; and an automatic alarm system, such as was put in all large hospitals, was installed.

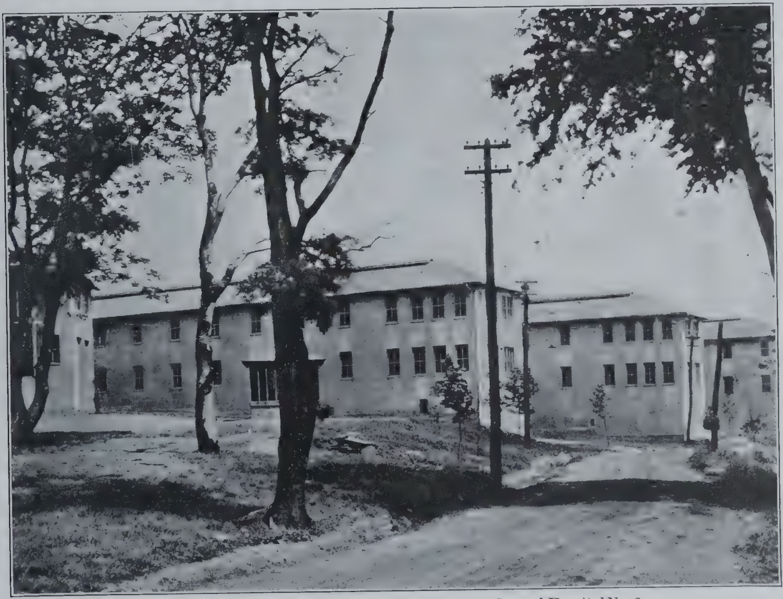

FIG. 102.—Two-story wards constructed of tile. General Hospital No. 2.

Construction continued, and by March, 1919, 2,500 beds were available. In the summer following, construction for 200 beds was added, making a total constructed capacity of 2,700 beds.

Over 130 separate construction authorizations from the Surgeon General's Office were necessary to complete this hospital. This number of authorizations was greater than was usually required and was due to the facts that the hospital was developed early and that there was an enforced absorption of old buildings in a confined area.

Nurses' quarters, as well as quarters for all other personnel, were provided on the grounds. In fact, every activity of the hospital was so provided, thus greatly simplifying administration.

The first permanent buildings of the Bureau of Immigration were used with practically no alterations.

The special buildings for physiotherapy, school, and shopwork for the physical reconstruction service, were not installed until rather late in the construction period of this hospital.

Special provision for the blind was made until accommodations elsewhere could be effected. A most complete orthopedic workshop, a feature not common to all general hospitals, was added. Special provisions for the treatment of maxillofacial, brain, and peripheral injuries were also made.

In all, 75 new buildings were added to those originally at the fort, which, with the four buildings of the Bureau of Immigration, made a total of 111. The total cost of this 2,700-bed hospital was $2,160,000.

CHRONOLOGICAL SEQUENCE OF EVENTS.

At the close of the first six months, that is, March 1, 1918, there were 187 enlisted men, Medical Department, 33 officers, and 400 patients. Two of the frame buildings were occupied and many others were under construction, but there was still a margin of 400 vacant beds. The three immigration buildings had been occupied for several weeks and were fulfilling every need. On March 6, Base Hospital Unit No. 48, comprising 148 men, the first of several such units to receive their training at this hospital, arrived.

The month of March, 1918, was a memorable one in the history of this hospital because it was during this month that the educational department was established. At this time the Government had not adopted any definite policy regarding the reeducation of disabled soldiers, nor had any appropriation for this purpose been made. The establishment of this school was made possible through the liberality of one of Baltimore's prominent citizens who placed at the disposal of the commanding officer a sum of money to conduct what started to be a department of reeducation of the soldiers at this hospital. From this small beginning schools and shops developed into one of the most complete educational departments.

On April 4, 1918, a branch post office and a telegraph station were opened, and on the 27th of the month the first number of the *Trouble Buster* was printed from the press in the educational department.

On May 31, authorization was received to enlarge the capacity of the hospital to 3,000 patients, the construction to be two-story tile buildings.

At about this time a post exchange was established and recreation of various sorts was being given daily for patients. Many relief organizations which had developed in the city were lending their assistance to the hospital in various ways, furnishing many comforts and delicacies which the Government did not provide.

A printing press, with full equipment, was donated by the Broadway War Relief Association and the American Type Founders Co., establishing the Fort McHenry press, which printed the *Trouble Buster* and *The Medical Bulletin.*

During the month of June, 1918, the hospital was very active. Base Hospital Unit No. 48, having been equipped, left on the 20th for duty overseas. Base Hospital Unit No. 78 arrived for mobilization and training. A convalescent camp on the Severn River was opened for the reception of patients. The cantonment buildings were occupied, grounds about the hospital were being beautified by the planting of flowers and shrubbery, and in spite of the great amount of new construction the hospital presented an attractive appearance.

On July 20, a class of instruction for noncommissioned officers was started and lectures were given daily by the various officers. On the 25th, Base Hospital Unit No. 102 arrived for mobilization and training. During this month 30 enlisted men left for overseas. On the 19th, the new psychiatric wards were formally opened.

August 4, Base Hospital Unit No. 102, known as the Italian unit, most of its personnel comprising Italian-Americans, embarked from the port of Baltimore for the Italian front. In this unit there were 35 officers and 198 enlisted men. On the 27th, Base Hospital Unit No. 78 left for overseas, taking with it 22 officers and 191 enlisted men. During this month several hundred limited service men arrived for minor operations; and while the active affairs of the hospital were somewhat crippled, the work went on without interruption. The construction of new buildings was constantly going on and hundreds of workmen went in and out daily. Twenty-three two-story tile and concrete buildings were in process of construction and a large amount of débris covered the grounds, necessitating the policing of the entire grounds daily by both personnel and available patients.

During the month of September the first annual meet of the Army and Navy Athletic Association was held on Homewood Field at Johns Hopkins University. Athletes from the near-by camps participated. A parade of several thousand soldiers and sailors, with several bands, marched to the field, where 10,000 spectators witnessed the contests. The gate receipts, amounting to nearly $10,000, were used to establish and equip the convalescent camp on the Severn River. It was during this month that the first of the two-story tile buildings was completed and opened. This building was finished within two weeks after the work had started. A central kitchen and mess hall was also completed and opened, with a capacity of over 1,600 men.

At this time the influenza epidemic began, and a number of serious cases were admitted to the hospital from Camp Holabird, Md. Every day showed an increase in the number of influenza patients; but, fortunately, few cases occurred among the hospital command. At the end of the month there were 300 influenza and pneumonia patients, overtaxing the wards and requiring officers, nurses, and enlisted men to work overtime. Five surgical wards were given over to the medical service, and all operating ceased for this period. During the month there were admitted 1,052 patients; discharges numbered 730, and deaths 14.

During October the epidemic of influenza was still raging, over 1,000 cases having been treated in 30 days. There were 121 deaths among the patients, mostly from pneumonia. Many of these cases came to the hospital in the later stages of the disease. Many autopsies were performed and the involved tissues closely studied. A very large percentage of the autopsies exhibited an infection with streptococcus hemolyticus. Many cases showed a very early pleural exudate, rapidly changing to pus, though some died before the pus became microscopic. Many showed multiple abscesses in the lungs, and a purulent pericarditis.

During the month of November an officer arrived to take charge of athletics; and new life was instilled into these activities, the officers taking daily exercise in the gymnasium and the patients appropriate exercises to assist them in overcoming their physical handicaps. A bowling alley and shooting gallery were opened; boxing bouts became weekly affairs; and a spirit of competition arose which tended to improve the morale of the post. Weekly dances, moving pictures, and other entertainments were given both for the patients and enlisted men. It was during this month, also, that the local director of the American Red Cross arrived and began his work in the office of the chaplain, pending the completion of the Red Cross building.

During December the new laboratory was opened, providing adequate facilities for routine as well as experimental work.

The end of the year 1918 found the hospital in a splendid condition, with nearly all of the buildings occupied.

At the first of the year 1919, the personnel of the hospital consisted of 78 officers, 123 nurses, a detachment of 863 men, and 947 patients. During the month of January, the maxillofacial service was instituted. The neurosurgical department had already been in operation a few weeks, and the operating rooms were kept busy all day long. The orthopedic service had been moved into the large immigration building, containing over 300 beds, which, with those in three other hospital wards, made one of the largest services in the hospital. Of the 2,000 patients in the hospital nearly one-half required some form of prosthetic appliance, so that the orthopedic shop was a center of great activity, since practically all of the shoes and appliances were made and fitted there. The department of physiotherapy was operating in full swing with about 50 aides on duty and hundreds of patients receiving daily treatment.

During February the new Red Cross building was opened with appropriate exercises, and proved to be a constant source of comfort and pleasure to the personnel of the hospital. The officers' club was opened, and made an important adjunct to the social life of the post. The Red Cross fitted the rooms of the club with reading tables, writing desks, easy chairs, library, and a small restaurant.

On March 13 the new Young Men's Christian Association building was opened. This contained a large, well-equipped gymnasium, pool tables, and lounging and reading rooms for the use of both patients and enlisted men.

On April 4 Arbor Day was celebrated. The entire staff of officers, enlisted men, and ambulant patients turned out and planted trees and shrubs over the post. Over 2,500 trees and shrubs were planted. The greenhouse was complete and provided an abundance of flowers for the wards. The school of wireless telegraphy was opened and several pupils enrolled. On the 13th, the convalescent camp on the Severn River was formally opened and presented to the hospital, to be used as a camp for convalescent patients.

In May 230 orthopedic patients arrived from General Hospital No. 9, Lakewood, N. J., and General Hospital No. 1, Williamsbridge, N. Y. On May

31 a Memorial Day parade was held in Baltimore in which 7,500 patients from the hospital participated. A large exhibit of the work which was being done at the hospital was sent to the meeting of the American Medical Association held at Atlantic City. The Jewish Welfare Board hut was opened with appropriate ceremonies.

During July the commanding officer organized a central welfare board, which coordinated all the welfare activities of the post, and there was started a series of weekly lectures on American citizenship.

In Osler Hall, at the Medical Library, 1211 Cathedral Street, Baltimore, an extensive exhibit portraying the work of the various departments of the hospital was held for a week. The educational department, the maxillofacial, and others, demonstrated by models, photographs, and charts the comprehensive character of the work being done by the hospital.

During July and August patients were being taken to the convalescent camp daily. The Red Cross and other welfare organizations were very active, planning entertainments of various kinds for the patients and providing them with many comforts.

The month of November marked the beginning of the end of the hospital's existence, when the various welfare associations discontinued their activities at the hospital. A detachment men's service club was organized and took over the Young Men's Christian Association building as a gymnasium and club house.

On the last of the year the personnel of the hospital comprised 81 officers, 173 nurses, 701 enlisted men. There were 1,193 patients.

ADMINISTRATION.

REGISTRAR'S OFFICE.

In this office were kept the records of each patient in the hospital from the time he was admitted thereto until he was ready for final discharge, when his record was completed and sent to the Office of the Surgeon General of the Army. From the time the patient was admitted his record (register card) moved step by step through each subsection of the department.

The following figures for the year 1919 will give some idea of the work done in the registrar's office: The number of register cards for patients admitted to hospital, 14,277; the number of complete records sent to the Office of the Surgeon General, 13,048; the average daily number of patients admitted, recorded, diagnosed, completed, checked, etc., was 40.

PERSONNEL ADJUTANT'S OFFICE.

This office handled the records of a shifting personnel of enlisted patients, as to pay, insurance, class A, B, C, D, and E allotments, and Liberty loans, for approximately 21,800 men, or a monthly average of about 2,000. In many instances the records of these men were received in poor condition, 50 per cent of the men who arrived from overseas and were transferred to this hospital having temporary service records and pay cards only, making it essential to execute affidavits and to interview individual enlisted men to determine the merits of each case. The back pay due some of these soldiers ranged from two months to two years. This department handled the pay, insurance premiums, class A, B, C, D, and E allotments, and Liberty loan bond deductions for the members of the Medical Department, Quartermaster Corps, Utilities, and Motor Transport Corps on duty at this station. This number averaged 850 per month. There were also executed all papers required by demobilization circulars and orders in the discharge of about 250 patient officers and the transfer of 75 to other stations for duty or discharge. In this office were made monthly rosters and musters of officers and enlisted men, the post returns of the command, returns of medical officers, weekly reports, reports of duty status of officers, and a daily report of changes to The Adjutant General of the Army for every change of status of officers and enlisted men, averaging 150 officers and 1,770 men per month.

Detachment of Patients.

The office of the detachment of patients was charged with the pay of enlisted and officer patients; banking the patients' money and depositing their valuables in the vault; keeping the service records of patients admitted to hospital, or sending the records to proper organizations with necessary indorsements when sick were transferred or returned to duty; completing the service records for discharge; preparing temporary records and pay cards; affidavits when original papers had been lost or destroyed; supervising War Risk allotments; preparing surgeon's certificates of disability; issuing furloughs to patients; and issuing clothing to patients.

The greatest part of the work of this office was in connection with keeping the enlisted patients' records up to date so that the men could be discharged when such was ordered by reason of a disability, or when the patient was returned to duty. The following figures show some of the work accomplished by this office during the year 1919: Patients admitted to hospital with service records, 14,277; patients departed from hospital for discharge, transferred for further treatment, or to a duty status, 13,048; approximate monthly pay of patients in hospital, $35,000; number of furloughs issued to patients in hospital, 1,855.

Receiving Ward.

One of the busiest places in the hospital was the receiving ward. Here the patients were admitted or discharged, and it was here the medical and surgical officers of the day made their headquarters, where, in the event of an emergency, they would be most readily available.

Evacuation Department.

The evacuation department consisted at first of three separate and distinct offices, namely, evacuation, demobilization, and transportation. On September 22, 1919, they were consolidated into what was later known as the evacuation department. This department was charged with the duties of demobilization, evacuation, and transportation of personnel at the hospital.

When a member of the organization was demobilized his records were completely audited by the commanding officer, detachment of patients, and the personnel adjutant, before his papers reached the demobilization office. So soon as the demobilization office received a soldier's service record he was notified to appear, his papers were completed, and he was then ready for discharge. During 1919, approximately 13,000 patients were discharged or otherwise disposed of at this hospital.

SANITATION.

Fort McHenry was taken over as a general hospital August 22, 1917. At that time the sanitary conditions of the post were very poor as the result of an inefficient sewerage system and the methods of disposal of garbage and refuse. Steps were immediately taken to install an adequate sewerage system, and to correct the existing insanitary conditions. A field incinerator was built for temporary use for the disposal of wastes, and the garbage was deposited on a scow and removed by the city of Baltimore. Water was supplied by the city system.

During the months of September, October, November, and December, 1917, and January, February, March, and April, 1918, the above mentioned methods of sanitation were in operation. In June, 1918, a modern steam incinerator was built and efficiently operated for the needs of the hospital. Following this, water pressure tanks were installed and connected with the city water supply. Shortly thereafter, a modern incinerator was built, and it adequately cared for the disposal of the waste of the post.

In the early part of 1918, as a result of the rapidly increasing size and capacity of the hospital, an officer, selected from the staff, was definitely assigned as hospital and sanitary inspector. In addition, several enlisted men, Medical Department, were assigned to duty as a part of the sanitary personnel of the hospital and under the direction of the hospital inspector.

The duties of the hospital inspector and sanitary squad were: Frequent inspection of the buildings and grounds; the drainage, sewerage, condition of sanitary appliances (incinerators, sterilizers, and filters); the amount and potability of the water; the character and cooking of food; and the character and causes of prevailing diseases and measures taken to prevent them.

All the wards and corridors were screened as a precaution against mosquitoes, and the drainage was carefully looked after to prevent the formation of stagnant pools of water. Places which were habitually damp were covered with a fine film of oil.

NURSING SERVICE.

The first nurse reported for duty at General Hospital No. 2, January 5, 1918. She was detailed as chief nurse. On January 26, 1918, the first duty nurse arrived; the following day two more nurses reported; and by the end of February there were 12. Not many wounded were being brought back to this country at that time so that the number of nurses was increased very gradually.

The accommodations in ward 1, provided for the nurses, were soon outgrown and it was necessary to build nurses' quarters No. 1. These were completed about March 1, 1918. By June, 1918, about 50 nurses were quartered in this building, and it then became necessary to have additional quarters, and a dormitory consisting of eight beds. Quarters Nos. 26 and 27 were opened for nurses early in November, 1918, when the roster had increased to about 75. All these buildings provided private rooms, parlors, and reception rooms for the nurses; and all of the rooms were tastefully decorated and furnished by the Red Cross and other patriotic organizations of Baltimore.

The nurses' rest house on the water front filled a longfelt want. This building included a large living room, with laundry, two small guest rooms, and on three sides a screened porch that proved a delight on hot summer days. The rooms were furnished and decorated attractively by the Red Cross. Apart from being a rest house, it was used as a recreation hall for nurses, officers, and others of the post, and for the entertainment of nurses' guests.

About October 15, 1918, the influenza epidemic was at its height. Twelve wards, with 40 patients to each ward, were in operation. Nurses were arriving daily in large numbers, so that shortly after the roster reached 200. About one half of the nurses were taken sick with the influenza, doubling the work of those remaining on duty.

HOSPITAL DEPARTMENTS.

SURGICAL SERVICE.

On October 10, 1917, the first chief of the surgical service was assigned. On October 29, 1917, an operating room was planned and equipped for emergency operations in the old post hospital building. The first operation performed at this hospital was on November 23, 1917.

The activities of the department of general surgery, which during the early months included the subdivisions of surgery, orthopedics, maxillofacial, and neurosurgery, were confined to operations of an elective character which included a large number of hernias. The usual acute surgery from the surrounding camps was also taken care of. Beginning in November, a few operations on the late effects of gunshot wounds of bones were performed—removal of sequestra.

The majority of the cases of compound fracture arriving from overseas, up to this time, had required only the usual surgical dressing, splinting, etc., and the surgical department had been largely concerned in the study of radiography and clinical signs, having in mind the proper selection of cases requiring surgical intervention. The study of the cases requiring surgical intervention necessitated a grouping of surgical conditions in suitable wards in order that these conditions might be more readily and frequently reviewed. It was found that, due to the splendid surgical care given the patients abroad, there were very few malunited fractures, and cases of nonunion were comparatively rare. These cases of nonunion were subjected to bone-grafting operations with very good results. The empyema cases operated upon represented old empyemas of more than six months' duration.

During the month of December, 1918, the department of neurosurgery was formed.

During the year 1919, 3,579 operations were performed, with but 18 deaths. These figures include a number of operations on general surgical cases which represented long-standing complications that had been transferred on the closing of other general hospitals.

One of the innovations during the year was the system of charting, by graphic charts, the results obtained by the orthopedic and physiotherapy departments. Graphic charting of a patient's improvement not only encouraged and convinced the patient of his progress, but it was a stimulus to the aides and others working on the case.

Every effort was made to keep a smooth liaison between all the departments of the surgical service and between each ward and the office of the chief of the surgical service.

EYE DEPARTMENT.

This department was not well organized until September, 1918. From that time on a system of case records was established and a separate ward opened. The clinic became a large and active one, operating practically all day.

The surgical work of the service was of a very high order, consisting of plastic repair of old gunshot wounds, the restoration of cul-de-sacs, fat and fascia orbital implantations, enucleations, and the fitting of artificial eyes. The most marked and interesting cases of repair work were sketched in crayon and colors; plaster casts made before and after the various operative procedures, and the complete collection later became a part of the exhibit of the Museum and Library of the Surgeon General's Office.

OTOLARYNGOLOGICAL DEPARTMENT.

This section of the hospital was not well organized until the spring of 1919. During 1918, the clinic was inaugurated and a large number of patients treated and many consultations were held in the wards. As the demand for space for patients of this department became more urgent a separate ward for the service, having a capacity of 80 patients, was established. The section soon became an integral part of the surgical department of the hospital and the clinic ran daily, including Sundays and holidays, from 8.30 a. m. until noon. The service was a very active one, cooperating with the other departments of the hospital and caring for military cases from the city of Baltimore, Aberdeen Proving Grounds, Camp Holabird, and Camp Meade, Md. Many patients from the latter-named points were naturally in the out-patient clinic, and hospitalized when necessary.

The operative work, of which there was considerable, was done in the afternoons.

The most frequent lesions met with were those of the accessory nasal sinuses, usually postinfluenzal, some following gassing, and others resulting from high explosives and other war injuries. There was a large number of ear affections, principally of the chronic suppurative type, with a very low percentage of mastoid involvement. Acute mastoid cases were found to be few and far between for such a large clinic. Acute tonsillitis was found to be frequent, with a number of cases of peritonsillar abscess, and there were a few cases of Vincent's angina.

MAXILLOFACIAL SERVICE.

The maxillofacial department, at General Hospital No. 2, was in charge of an officer, with four surgical assistants, and two artists. In all there were about 450 maxillofacial cases; of this number about one-fourth were discharged in practically as good condition as they were before entering the Army. These cases consisted of a great variety of facial injuries, including many with a partial loss of the nose and a few with entire loss of the chin, and a great many with deep deforming scars and loss of bone in many parts of the face. In the repair of these cases it was necessary to have a great many of the appliances made by the dental department.

In order that a permanent record of the work might be made, two artists were employed. One was in charge of the plaster and wax work and clay modeling. A cast was made before and after operations in each distinctive case. In many cases, noses and chins were modeled in clay, as a pattern for the surgeon to go by. In a number of cases water colors were made where sketches and casts did not show sufficiently the nature of the injury. Another artist was in charge of the sketching, and made excellent free-hand sketches of all cases, before and after operation. In addition, the department had photographs of all cases, also tracings of X-ray plates and many X-ray films. The dental records consisted of splints mounted on plaster casts, copies of the various appliances used, and pictures of others not deemed worthy of publication. In this way it was possible to place in the Army Medical Museum at Washington a complete record of the work of the department, with a card index of all cases shown, giving a brief history of each.

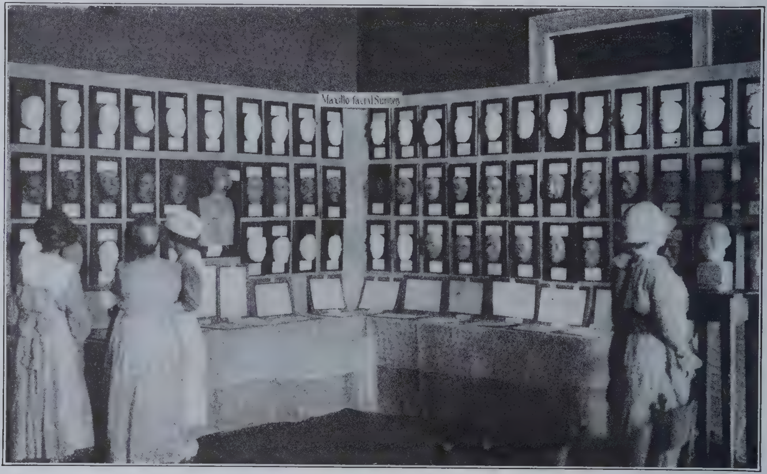

FIG. 103.—Plaster models of maxillofacial patients, General Hospital No. 2

NEUROSURGICAL SERVICE.

It was learned from the experience of the Allies, long before we entered the war, that injuries to nerve structures calling for surgical intervention would reach a high percentage. The Surgeon General's Office then created a division to be known as neurosurgery. There were very few men, at home or abroad, trained in this branch of surgery, and one of the first steps of the new service was to open schools, known as neurosurgical institutes, at several medical centers, to which were sent selected officers for this training. There were also designated, at a later date, certain hospitals in this country to be equipped as neurosurgical centers. General Hospital No. 2 was one of this group, and in November, 1918, patients with nerve structure injury were being admitted for treatment.

It was with the withered hands and feet and arms and legs that this department had to deal. Patients, with very few exceptions, were those in whom partial or complete paralysis had followed gunshot wound of the brain, spinal cord, or the larger nerve trunks. The injuries varied greatly in severity: in some cases a large portion of the brain matter was destroyed or irreparably injured; in others there was nothing more than a bruise. So also was it in cases of spinal-cord injury. With the peripheral nerves the injuries varied from bruises to complete division.

The total number of cases treated was 655, of which 550 were peripheral nerve injuries, 103 head injuries, and 12 injuries of the spinal cord. Two hundred and forty-one peripheral nerve cases and 65 head cases were operated on. In addition to the nerve injuries, about 25 per cent of the men had serious injury to bones, tendons, or joints, requiring treatment in some other department.

The early recognition of the necessity for cooperation between the orthopedic ward surgeons and the departments of physiotherapy and of education was evidenced by the assignment of a liaison officer for this purpose in November, 1918. In this manner, by consultation, it was determined what curative or educational therapy should be undertaken in each case. Both of these departments proved of inestimable value to the orthopedic department.

In connection with the physiotherapy department, and largely due to the efforts of the liaison officer, there were developed apparatus and forms for the measuring and recording range of voluntary motion and the strength of motion in disabilities of the joints and muscles. These instruments were designed from the various forms of apparatus in use in other Army hospitals, supplemented by improvements worked out by the officer in charge. These measurements and records proved of great value not only in stimulating and encouraging the patients, but also in furnishing a definite record of improvement for the information and guidance of ward surgeons and members of the physiotherapy and educational departments.

Orthopedic Department.

The orthopedic service was organized soon after the first contingent of overseas patients was received, in June, 1918. These patients were placed in a small building afterwards used and outgrown as the appliance shop, becoming the repositorium. As the hospital rapidly filled with patients, other wards were assigned to the service, and to one of these, ward 17, a sun porch was added for the segregation and open-air treatment of orthopedic tuberculous patients.

In August, 1918, it was found necessary to establish and equip an orthopedic appliance shop. The small building used as the first ward was remodeled for the purpose; and two men, trained at the Army Medical School orthopedic laboratory, were secured to augment the nucleus of mechanics developed locally. The first shop equipment, soon afterwards replaced by a complete Medical Department issue, was secured through the generosity of patriotic organizations and citizens of Baltimore.

In April, 1919, a wing of the physiotherapy building, the gymnasium, was secured and converted into an appliance shop, office, and consultation room.

Throughout the remaining months of the year the shop mechanics, all emergency enlisted men of the Medical Department, turned out the required appliances for the entire hospital, with the exception of the cork-sole shoe raises, which required the services of an expert orthopedic bootmaker, and an occasional back, or leg brace.

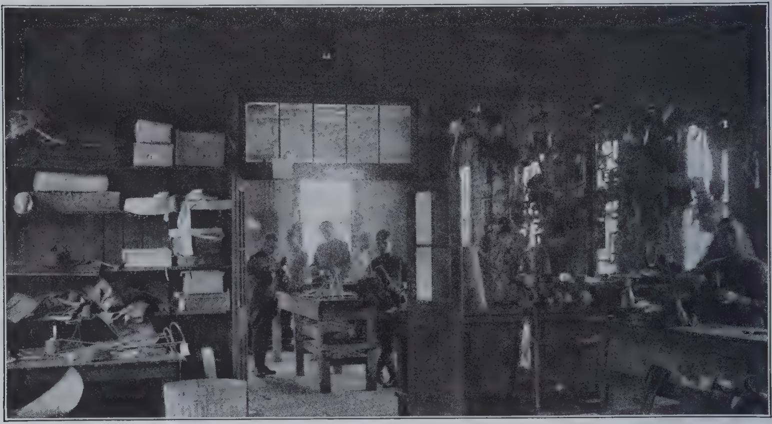

FIG. 104.—Orthopedic shop, General Hospital No. 2.

UROLOGICAL DEPARTMENT.

No separate urological department was maintained at General Hospital No. 2 during its early days, all venereal patients being taken care of in a small ward by the general surgical service. It was not until large numbers of venereal patients began to be received from overseas that it became necessary to organize a distinct department, though several hundred cases had been taken care of up to September, 1919, when the big influx began. During November, 1919, some 400 venereals were received from overseas, representing all kinds and stages of disease.

DEPARTMENT OF ROENTGENOLOGY.

One of the most important departments of the hospital was that of roentgenology, located on the first floor of the surgical building. Originally but four rooms were occupied. The largest one was arranged for operating and fluoroscopy, and in it were a Campbell table, Kelly-Koett tube stand, vertical plate changing device, vertical fluoroscopy, and a complete chest for localizing apparatus. Protection from X rays was afforded by lining the walls with heavy sheet lead. In a room opening from the main operating room a Wappler transformer, Belleview model, was installed. Adjoining was the diagnostic room, which contained a built-in view box, plate-filing cabinet, Wheatstone stereoscope, typewriter and table, and a card-filing cabinet wherein a complete record of each patient was kept, a system having been inaugurated by which plates and dates referring to each case might be located promptly. The dark room was conveniently arranged and equipped with large developing tanks, the contents of which might be brought to the necessary temperature by means of running hot and cold water.

As the hospital grew in size so did the department until it occupied 10 rooms. An additional operating room was installed, the walls of which were lined with heavy lead, and the equipment consisted of a United States Army table, Kelly-Koett tube stand, and vertical plate-changing device. In the adjoining room was a Kelly-Koett transformer. In addition to the above-mentioned equipment there were two portable bedside units.

With the increase in work the plate-filing space in the diagnostic room became inadequate and it was found necessary to take over another room for this purpose. In this were a Wheatstone stereoscope, two large built-in plate-filing cabinets, and a view box in which a number of plates could be shown at one time. This room was commodious and afforded an opportunity for studying plates by members of the staff.

The work was varied and interesting, a vast majority of the patients having been injured overseas, and bone injuries were observed in practically every bone of the body. Many other cases, likewise unusual, presented themselves.

The number of patients examined was 8,002, for which 16,329 plates were filed; 4,855 new cases were examined and 3,147 were old cases reporting for further examination. Of the number of patients examined, 4,616 were found to be pathological. Of this number, 2,636, or 57 per cent of the pathological causes, were fractures. The humerus was found most frequently fractured, there being 351 cases.

A fully equipped photographic laboratory was connected with this department and was under the supervision of the X-ray service. Seven hundred and forty-six patients were photographed, of which there were 2,388 plates.

DENTAL SERVICE.

The dental clinic was established February 15, 1918. At that time it was located in what was known as the surgical building, and there was provided but a single room and one base outfit. It was soon found that supplies and equipment were far too inadequate to cope with the constantly increasing quantity of work to be done, especially when the hospital was designated as a maxillofacial center.

On February 1, 1919, the entire upper floor of ward 28 was decided upon as the future place for the dental clinic. Additional dental equipment and supplies were immediately requisitioned; gas, water, and air lines were installed; and hasty preparations were made to care for the great number of patients who already filled many of the wards, as well as those constantly arriving with each convoy.

The rapid growth of the clinic will be seen in the comparative numbers which follow: On January 1, 1919, there were but 3 dental officers and 3 dental assistants on duty, while in April, there were 19 dental officers and about 25 enlisted men in the clinic. Subsequent to the 1st of January, 1919, 4,365 patients were cared for, 13,000 sittings were given, there were 276 restorations, and about 255 splints for maxillofacial cases were made.

A dental officer of the day was designated daily to care for any emergency which might occur within the 24 hours, while each of the other officers had a definite class of work to do. Certain ones were assigned to prosthetic restorations, others to operative dentistry, one to the surgical room, where all extractions and other work of a surgical nature were done. One officer was designated as property officer and was responsible for all equipment and supplies, this being in addition to his other duties.

Medical Service.

The medical service at the hospital was created October 7, 1917. Up to this time the hospital had been in a process of organization, and it was not until October 15 that patients began to appear on sick report. For months the sick report showed a few entries only, representing men from the detachment on duty at the hospital and from the water-front guard near by. It was not until January, 1918, that the first group of patients arrived from elsewhere. At this time the great debarkation and distribution hospitals at the ports were not entirely ready for use, and from January to April, 1918, group after group of patients was sent to General Hospital No. 2, immediately on debarkation from France, for diagnosis and separation into disease classification, on completion of which many of them were transferred to other hospitals for definitive treatment. So it happened that a large percentage of the patients admitted in these early days of the hospital's existence was assigned to the medical service, and as a result a demand was created for medical officers to rapidly build up the personnel of the medical service.

The most striking characteristic, speaking in a medical way, of these early groups was the preponderance of the transfer diagnosis of tuberculosis. It soon became evident, however, that many of the cases had been hastily and erroneously diagnosed overseas; these were kept under observation for a time and usually returned to limited duty.

In April, 1918, this hospital ceased to be a distributing center and thenceforward the cases sent remained for treatment. It is interesting to note that never thereafter was a tuberculosis ward (the standard ward of 32 beds) completely filled with undoubted cases of the white plague. Now began the proper and steady work of the medical service. Few changes of officers occurred and there was in consequence an efficient and harmonious staff.

The ward facilities, however, were still inadequate. Only four of the cantonment wards were available for patients, and these had to shelter the growing number of surgical, especially orthopedic, cases, as well as the medical patients. Recourse was had to the use of the big immigration building, a structure poorly adapted in every way for ward purposes. Two of the wards were huge, and consequently hard to administer, and the noise of riveting on steel ships night and day, less than half a block distant, prevented sleep for the patient, accurate ausculation for the doctor, and at times ordinary conversation for everyone. In spite of such drawbacks things went on smoothly, with a service growing to 220 in September, when the medical service was then comfortably housed in the cantonment wards which subsequently constituted the medical row.

During the early summer of 1918, Base Hospital No. 78 mobolized at this post and trained to a large extent. On September 3, 1918, they were ordered to the port of embarkation and took with them the chief and four other members of the medical service.

The hospital at Fort McHenry had a double function: In addition to being a general hospital it served as a post hospital for the surrounding camps and posts. The water-front guard, General Hospital No. 7, the ordnance depot at Curtis Bay, and the huge motor transport depot at Camp Holabird, all looked to this post for hospital facilities and furnished a fair proportion of patients. Their dependence on the hospital became the absorbing factor in the activities in mid September, 1918, when the great influenza epidemic began. On the 18th of that month the first cases were received, and the medical service mounted rapidly to its maximum of 754 on October 5. All operating was stopped except in the most urgent cases, and officers were transferred in numbers to the medical service from the surgical service. The whole row of wards from 10 to 18 was thrown open to influenza and pneumonia alone. Inadequate as were conditions in Army posts, as they were throughout the country, to meet the emergency, this hospital fared as well as any in the proportion of nurses and attendants, and its morale was unbroken. The only deaths among the hospital personnel were two enlisted men. None of the officers was seriously ill, and of the 40 or more nurses who were off duty at one time or another during the epidemic not more than two or three caused any real concern.

The measures that accomplished this creditable result were those prescribed by the Surgeon General's Office. Masking was ordered and was fairly well carried out. The formation of cubicles by the use of pendant sheets was required and done. The morale of the nurses was maintained partly by frequent automobile trips away from the post. In fact throughout the terrible devastation and depression of the epidemic period the medical service functioned smoothly and well.

After the epidemic the most pressing medical question was the proper treatment of the sequelæ. The unresolved pneumonia consolidation, the vestigial râles at apices, which resembled so much the typical râles of active tuberculosis, and especially the many myocardial changes, furnished many patients for months.

From time to time accessions of groups of patients from overseas arrived. The bulk of these were surgical; in fact the medical service, except in time of epidemics, was numerically small compared to the surgical service. The diseases represented at any one time in the medical service were much the same as those in any civilian hospital among young men. The particular war-time maladies were scarce. Pediculosis, trench foot, trench fever, trench nephritis, the neuroses, were rarely seen, practically not at all. A certain portion of the medical cases were the ordinary acute infections, colds, tonsillitis, and the like, of local origin; arthritis was represented by a fairly large group of patients; nephritis, goiter, cardiac conditions causing disorders, were present in their usual proportion. The exanthemata were continuously represented in the wards by 2 to 10 cases, and small epidemics of scarlet fever, measles, and mumps were cared for from time to time. In each epidemic the patients were brought from other posts and no epidemic spread beyond the wards where it was isolated.

It was the policy in this hospital for the chief of the medical service to make complete rounds every day and to know personally the history, condition, and progress of every patient. The system of medical supervisors of groups of wards reporting to the chief, who was to be called in only on special cases, was never adopted. The one-man close supervision, moreover, was carried out in such a way that the ward surgeons always felt that they were being supported and advised by the chief rather than being checked up and limited by him. To this was due the feeling and hearty cooperation that characterized the service throughout.

Neuropsychiatric Service.

The neuropsychiatric service was opened in March, 1918; but adequate facilities were lacking at that time; and it was not until the month of May when the patients were moved into the new standard psychiatric building that the real effective work of the service was begun.

The care of the patients was accomplished without any of the old-time methods and they were given every benefit of the modern school of neuropsychiatry. The interior of the building was decorated and painted in soft restful colors, while potted plants and flowers distributed throughout and lace curtains at the windows, all combined to make the place as attractive, homelike, and pleasant as possible. In the rear a spacious porch was converted into a sun parlor and made an ideal place for the activities of occupational therapy.

The building had its own hydrotherapy room equipped with showers, continuous tub, etc.; and the soothing effect of the sedative bath, especially in maniacal cases, was successfully demonstrated. In addition to its use in this way the hydrotherapy bath was employed with gratifying results in a number of chronic ulcer cases from the surgical service. Full advantage was taken of the hospital's physiotherapy department and nearly all of the neuropsychiatric patients were sent out daily for some kind of treatment in the more elaborately equipped building. No effort was spared to provide every therapeutic benefit to be derived from diversional occupation and recreation for the patients. A reconstruction aide spent her time entirely with these patients, doing all that was possible to keep their minds and hands busy, and splendid results were achieved. In addition to this occupational therapy a teacher of calisthenics spent some time each day giving the patients brisk exercise and conducting games which were greatly enjoyed. A large pool table, a victrola, and a well-stocked library, all donations of interested friends, were available for use at all times.

The fundamental principles underlying the treatment of the patients admitted to this service were psychotherapy, hydrotherapy, and occupational therapy. The patients were treated individually and not collectively. No routine or "system" methods were used in administering to those who were admitted complaining of the many and varied symptoms incident to a nervous or mental disorder. The happy results attending the use of these three important agencies, especially in the large group of the functional neuroses and the incipient mental disorders, amply justified the principles of nonrestraint which were insisted upon when the department was inaugurated early in 1918.

The neuropsychiatric wards were built on the same plans as those in all of the Army general hospitals, with the important exception that there were never locked doors, or barred or screened windows. The wards were dehospitalized and made as homelike and as attractive as possible.

This department received, daily, patients referred for consultation, and kept in close touch with patients or members of the enlisted personnel who had, for any reason, been confined to the guardhouse. The attitudes of the commanding officer and the disciplinary officer, regarding men who required discipline, were to first establish their mental responsibility. It is interesting to note that a large majority of the men who did not respect the honor system were those who were later classed as psychopaths or defectives.

The first occupational aide at this hospital was assigned to the neuropsychiatric ward.

A special feature was made of recreation. Several times a week, afternoon parties were given for the patients, at which there were music and refreshments, and when the occasion arose the holidays were celebrated with proper ward decorations and games.

In connection with the treatment of patients in this department mention should be made of the splendid results which were accomplished by sending patients to the convalescent camp on the Severn River. The recovery of a number of patients dates from the time they spent at this delightful summer camp, where boating, swimming, fishing, and many popular sports were available. The camp was especially beneficial in giving the patients the opportunity to get away from the routine of hospital life, and the feeling of freedom and stimulating effects of the outdoors.

Patients admitted to the department of neuropsychiatry were always treated as sick. The idea of anyone being sent as a punishment, the presence of curious visitors, or the use of any slang terms in referring to the patients in the service, were constantly discouraged.

Although at no time subsequent to the opening of the service were more than two ward buildings occupied, an effort was always made to handle as many patients as possible, the plan being to have the patients admitted to the neuropsychiatric division, their examination made, and their histories written, and then their transfer to a convalescent ward or to the convalescent camp on the Severn River effected to make more room for new cases.

On March 22, 1919, the scope of the service was considerably broadened by making arrangements to care for a number of the neuropsychiatric officer patients, and a ward was set aside for their use. In addition to this the Surgeon General's Office gave this service general supervision over a number of neuropsychiatric cases among Army nurses, aides, etc., who were sent to the Shepherd and Enoch Pratt Hospital at Towson, Md., and to the Henry Phipps Psychiatric Clinic at Johns Hopkins Hospital, Baltimore.

Laboratory Service.

The real beginning of the laboratory service may be stated to date from February 1, 1918, when a chief of the laboratory service was assigned to duty. In the following month four women technicians came to the hospital for duty in the laboratory to relieve enlisted men. In December, 1918, nine enlisted men who had been trained in the Army Laboratory School at Yale University were assigned to duty in the laboratory.

From February 1, 1918, to December of the same year the laboratory was housed in the small room in the surgical building, where conditions were very unfavorable: the room was too small for the personnel on duty, and it was impracticable to put into service all the necessary equipment because of the lack of available space for its proper use and care. In December, 1918, the laboratory was moved to a building comprising four large rooms, which had been especially designed and equipped for the service. The laboratory animals were kept in one room of this building until June, 1919, at which time a small house was fitted up for use as an animal house, and the room formerly used as an animal room became a general storeroom. The animal house was steam heated and contained cages for the animals, arranged in tiers in the center and about the sides of the room.

Subsequent to its removal to its permanent location the development of the laboratory service proceeded at a more or less uniform pace until its equipment was fairly adequate to the work demanded of it.

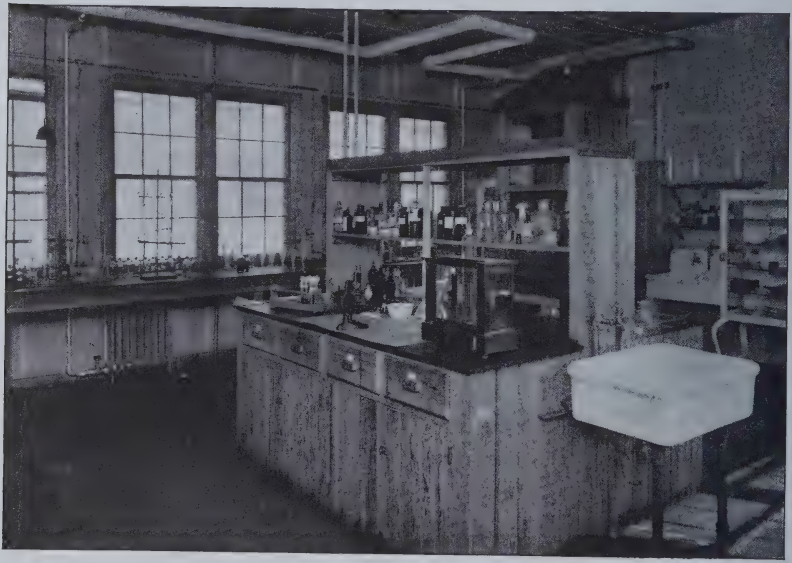

FIG. 105.—Portion of laboratory, General Hospital No 2.

From time to time surveys of various kinds were conducted in the laboratory. These surveys included examinations of the water supply, examinations of various articles of food, surveys of enlisted men on duty in the mess to discover possible typhoid and para-typhoid carriers, surveys of groups of the population of the post to segregate diphtheria carriers and carriers of the microorganisms or other transmissible diseases, and of still other groups to determine their individual susceptibility to diphtheria by means of the Schick test.

During the summer months of 1919 an interesting study was made of the metabolism and renal efficiency of a group of nephritics. Graphic charts showing the results of all these analyses were prepared. This study was intended particularly to partake of the nature of research, but was undertaken to determine the actual condition of the patients involved and to establish a scientific basis for their treatment.

The mortuary consisted of a small building of two small rooms. In one room there was a closet in which articles of medical property were kept under lock and key. In the same room were four metal-lined receptacles, each containing a wooden slab, for the accommodation of cadavers awaiting autopsy. In another room there was a concrete floor with the opening of a drain pipe in the center. The autopsy table was an old operating table, about the edge of which a metal rim, one-half inch in height, was placed. At the head of the table was a metal-lined box, into the bottom of which water was admitted from an overhead pipe. Water was drawn from the box near the top through a pipe the terminal arm of which extended across the top of the autopsy table and was pierced by several holes. This allowed a continual flow of water on the surface of the table from one end to the other under the body for the purpose of flushing away fluids which escaped during the process of necropsy. Special attention was paid to the performance of autopsies and to the careful and detailed study of all abnormal conditions encountered in tissues and cultures derived therefrom. Autopsies on patients dying during the night were usually performed at 9 a. m. the following day.

Experimental investigations conducted in the laboratory fell under two headings. One of these sought to determine the relation of the streptococcus hemolyticus to influenza and pneumonia. The results of this work were published in the *American Journal of Medical Sciences* for August, 1919. The other experimental investigation was a study of the suitability of a substitute for Loeffler's blood serum. This medium consisted of a mixture of egg and veal infusion bouillon, and it was found that it was in no way inferior to Loeffler's blood serum.

PHYSIOTHERAPY.

At General Hospital No. 2 one of the first physiotherapy departments was established. On August 1, 1918, the department comprised 1 officer, 4 reconstruction aides, and 3 enlisted men. The personnel greatly increased in number having in December, 1919, a maximum of 61 aides and 4 enlisted men.

The work of the department was divided into three main sections, as follows: Massage, electrotherapy, and hydrotherapy. The large majority of patients had gunshot wounds involving bone, muscle, and nerve injuries. The average patient received a local whirlpool bath, or treatment with radiant light and heat to stimulate and make flexible the part affected. The muscles were then fully massaged, scar tissues softened, and stiff joints given careful exercise, passive, active, or resistive. Electrical treatments of a wide variety were given, as this department was particularly well equipped. Tonic treatments for general weak conditions, stimulation in cases of local paralysis, and the healing of stubborn open wounds were included in this work. The hydrotherapy rooms contained all modern apparatus for the treatment of injury or disease by water, hot and cold. Cabinet baths were used for both eliminating and tonic treatments in mental cases. The sedative pool was invaluable in the treatment of shell shock and other psychiatric cases. The cleansing, healing, stimulating, and sedative properties of water were used to the greatest possible advantage by means of whirlpool baths for arms and legs, Sitz baths, shower baths, needle spray, and the Scotch douche.

Over 480,000 treatments were given to about 5,000 patients, of whom more than 3,000 were returned to duty or discharged cured or with maximum improvement.

Department for Measurement of Voluntary Movements and Strength in Stiff Joints.

There was established at General Hospital No. 2 a department for the purpose of measuring in degrees the range of voluntary movements in stiff joints and measuring in pounds the strength of voluntary movements in stiff joints. The instruments were designed in the various forms of apparatus that were provided the hospital, and in addition further modifications and improvements were devised. These instruments were all made in the orthopedic shop. Instruments were available for the measurements of the following functions: Flexion and extension of the finger joints, flexion and extension of the wrist, abduction and adduction of the wrist, flexion and extension of the elbow, supination and pronation of the forearm, abduction of the shoulder joint, flexion of the shoulder joint, flexion and extension of the knee, and flexion and extension of the ankle. The strength tests were made by the use of the dynamometer and of an ordinary weighing scale with a small runner attached to the dial. The purpose of these measurements was to obtain necessary information for the proper assignment of patients to curative work; and to obtain, in numerical and graphic form, reports which might be used to encourage and stimulate the patients to persist in the prescribed curative work by showing them definitely the progress of improvement, as well as to furnish the surgeon with definite information as to the patient's progress; and to keep the physiotherapist and instructors in the curative workshop informed as to the patient's progress that they might adapt the treatment and curative work to the changing needs. These measurements were made semiweekly. Records were kept and a chart, indicating the gradual and maximum improvement, was maintained for reference, should such information be desired by the ward surgeon or the chief of the service.

Education And Reconstruction Work.

The history of the development and evolution of the educational service at this hospital reflects the changes in policy and practice made necessary by the varying conditions of the Army and the work in general. Beginning as it did at the time when the first patients began arriving from overseas and before the enactment of legislation providing for reeducation of disabled soldiers under the Federal Board for Vocational Education, and continuing through the signing of the armistice and the return of practically all disabled men to civilian life, the educational work at the hospital necessarily changed in character as well as in personnel several times. Early in the war the Surgeon General issued plans in bulletin form for the physical reconstruction of disabled soldiers in general hospitals. This hospital was listed as one of those designated for the work of physical reconstruction. This bulletin stated:

> From the military standpoint, disabled soldiers may be placed in three general classes: (A) Those who can be restored to full duty; (B) those who can be fitted for limited service; (C) those disabled to the extent of unfitting them for further military service.

Patients of the first class (A) should have, when circumstances warrant it, the benefit of therapeutic treatment through play, work, and study, as may be prescribed by medical officers, in order that their morale may be stiffened, their special skills improved, their future usefulness increased, and their recovery hastened.

Patients of the second class (B) should have, whenever conditions permit and the medical officers approve, such specific training—physical and vocational—as will in the judgment of the educational officers best fit such patients for limited service of a particular kind.

In the early days of the educational service considerable emphasis was placed upon training men for various occupational use in the Army which would make it possible for them to return to limited service and thus relieve a more able-bodied soldier for service in France.

After the signing of the armistice, retaining men for limited service was, of course, unnecessary. This change in conditions modified the character of the educational work in hospitals, and more emphasis was placed upon giving disabled men the initial stages of what was later to be vocational reeducation.

Originally the department was designated the "occupational therapy service"; later, it was termed the "department of education and occupational therapy," and then became known as the educational service.

The first educational officer arrived at the hospital for duty on February 18, 1918. At that time no special allotment of funds had been made for this work and its status was somewhat uncertain. Congressional action upon the care of the disabled soldier was pending, and there was considerable uncertainty as to the final developments of the work.

On the arrival of the educational officer a hasty survey was made of the patients and their previous education and occupations. Several patients were found who were qualified to act as instructors in commercial and technical subjects. Through the generosity of a resident of Baltimore, $1,000 was placed in the bank subject to the draft of the educational officers. Several typewriters, sets of drafting instruments, drafting boards, and other educational paraphernalia were thus provided. Within a few days patients were studying shorthand and typewriting, drafting, and English. Several patriotic organizations of Baltimore provided yarn and knitting machines, and on February 21, 1918, the first occupational work in wards was initiated. Knitting was provided for men with disabled hands and patients who could not do any more active work. Typewriting and shorthand was given to those who wished it and whose injuries were such that they could be efficiently assigned to limited service use. Patients requiring light outdoor work were given light work, such as raking the lawns and the preparation of gardens.

It should be remembered that at that time there were only the permanent buildings. Medical patients were quartered in the large immigration building, surgical patients were in the wards of the surgical building, and the tuberculosis patients were in what became known as barracks No. 3. Considerable construction work was progressing on the newer buildings and a great deal of policing was necessary.

As more patients arrived, enlargement of the scope of educational work was necessary. For the psychiatric patients willow-basket making was introduced through the generosity and cooperation of the officials of the State asylum at Crownsville, who furnished the hospital an instructor and the material for willow-basket making. In a small room on the lower floor of the immigration building a willow-basket shop was soon in operation and several patients were trained who later acted as instructors. The necessity for a diet kitchen, to be placed in the immigration building, caused the basket shop to be moved to the basement of what was later known as ward No. 1, and for several months this work was carried on there.

Among the patients to arrive early at the hospital was a master senior electrician, who was an expert telegrapher. In a very short time he had organized a class in Morse telegraphy; and, as soon as it could be arranged, a classroom was opened for this subject in one of the old noncommissioned officers' quarters, and for several months a thriving class in Morse telegraphy was conducted in that building, many patients in the wards doing similar work.

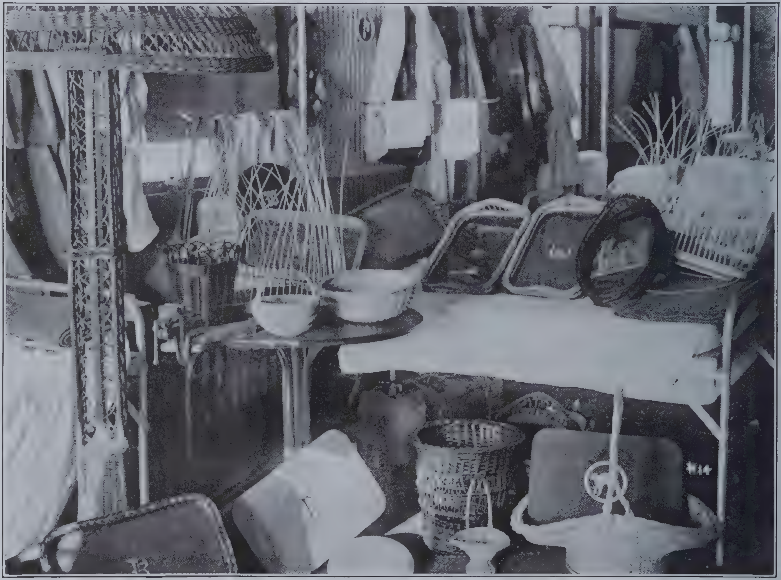

FIG. 106.—Work in basketry, General Hospital No. 2.

The arrival of Base Hospital No. 48 brought a number of trained men who could be spared from the hospital work to act as teachers; and soon classes were established in various grades of English, mathematics, and drafting, both in wards and classrooms.

The first shop work was given in a shop that was later the physiotherapy building, and in the space later occupied by the bowling alleys. The first shop was a woodworking shop, and was followed immediately by the cement shop and a shoe shop.

In May, 1918, the first allotment of funds was made for the work and this gave a great impetus to it. Additional shops were opened in the first wing of the physiotherapy building and gardens were planted around the star fort.

Early in April, 1918, the Broadway War Relief Club of Baltimore offered a small printing press to the educational department. This was installed in one of the upper rooms of the post exchange, and on April 24 the first issue of *Trouble Buster* was published. Two enlisted men were found in the detachment who were printers, and from that time the instruction in printing developed rapidly.

The influenza epidemic in 1918 temporarily disrupted the entire organization of the department, as it was necessary for all enlisted men to be utilized as ward orderlies as well as for caring for the sick. The work was not reorganized after the epidemic until the new shop buildings were completed in October, 1918, when all the shops were brought together in these buildings, and a somewhat permanent organization of shop work was effected. On the completion of the new two-story building in November, 1918, all the classes were brought together in the educational buildings where they subsequently remained.

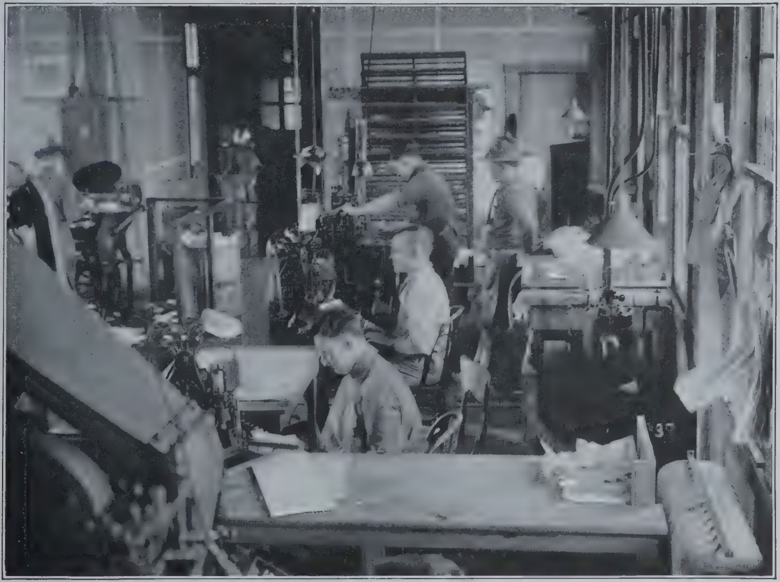

FIG. 107.—Patients at work in printing shop, General Hospital No. 2.

Previous to the signing of the armistice practically all of the instruction given in the department was done by men inducted into the Army especially for the reconstruction service, and by qualified convalescent patients. About the time of the signing of the armistice the first reconstruction aides were assigned to the hospital by the War Department, and from that time on enlisted men were rapidly replaced by civilian aides.

When adequate teaching personnel had been provided the work was organized in three divisions: The occupational and educational work in wards was arranged under a definite head aide, the class rooms were organized under a supervisor of academic subjects, and the shops under a supervisor of shop instruction.

The abandonment of reconstruction work at Camp Meade made a large addition to the equipment of the service at General Hospital No. 2, as the entire school of photography, vulcanizing equipment, and radio equipment were transferred.

The policy of the department was to provide diversion, occupation, recreation, and instruction which would contribute most to the physical reconstruction and the future occupational efficiency of the patients. Where diversion was necessary, such was provided. Where more stimulating active work seemed advisable, this was provided. Where outdoor work or calisthenics in the gymnasium was needed, these were given. As patients arrived in their convalescence at that point where serious educational or technical vocational work was possible, this was prescribed and furnished. In all shops and classrooms it was the policy to make the work exceedingly practical and conforming to the best educational, industrial, or vocational practices. For example, the shoe repair shop repaired the shoes of the entire Medical Department detachment. For many months during the emergency this shop did all the shoe repairing of the hospital. The print shop did a vast amount of printing, which was necessary in the operation of the hospital. In the early days of the hospital the woodworking shop made practically all the tables and hat racks placed in the wards. The furniture repair shop repaired the large amount of chairs and other furniture which arrived in bad order. The automobile shop for many months did all of the automobile repair work on ambulances and other motor vehicles. The commercial art department painted a very large number of signs. In its early days the class in telegraphy operated the local telegraph office of the post. The electrical shop installed the electric bells in the administration building. The cement shop did ornamental concrete work, and laid several concrete sidewalks about the post. Classes in typewriting did a great deal of mimeographing. The vulcanizing shops repaired hundreds of tires for the Motor Transport Corps at Camp Holabird, Md. The radiator repair shop secured its materials and radiators on which the work was demonstrated from Camp Holabird, and returned these damaged radiators in first-class condition. The photographic shop made hundreds of photographs for the Army Medical Museum and for other departments.

At one time there was a number of blind men in the hospital for treatment, during whose stay a complete organization for the instruction of the blind was effected. Typewriting, craft work, and Braille were taught to all blind men. The American Red Cross presented each blind man who successfully completed a prescribed examination with a Corona typewriter.

The deaf and men with speech defects received special attention. Lip reading was taught, and for some months instructors were busy teaching aphasia patients to talk. A class in expression, taught by an instructor furnished by the Red Cross, proved very effective.

The scope and division of work provided by the department is illustrated by the fact that classes were conducted in the following subjects: Bookkeeping, mechanical drawing, higher mathematics, radio, agriculture, French, Spanish, sign painting, scenario writing, psychology, Morse telegraphy, and pronunciation. The shops provided instruction in automobile repair work, electricity, vulcanizing, jewelry, photography, carpentry, shoe repairing, printing, monotype and linotype operation, oxy-acetylene welding, gas engine theory, and radiator repairing.

In October, 1918, the scope of the department was enlarged somewhat by the addition of a recreational officer. This officer took charge of the athletics and recreation of both patients and detachment men. Various athletic teams were organized and the plan arranged whereby the recreational officer took care of the parties of patients leaving the hospital for short trips and entertainments of various kinds. Subsequent to that time the department was very active in recreation of both patients and detachment men.

There were enrolled in educational work, 4,031 patients, exclusive of those in recreational activities. A total of 113 civilian aides were at one time or another on duty. Sixty-one enlisted men and noncommissioned officers were assigned and later were transferred to other hospitals or were discharged. Eighteen different officers served in the department.

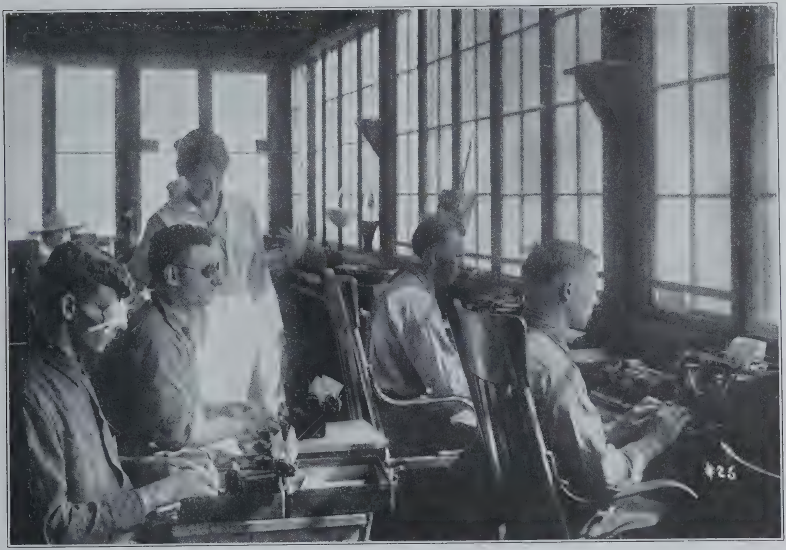

FIG. 108.—Blind patients learning typewriting, General Hospital No. 2.

Until November 1, 1919, the Young Men's Christian Association, the Knights of Columbus, and Jewish Welfare Board had representatives in the hospital; and the various welfare organizations cooperating with the educational department, arranged a very active schedule of activities for both patients and detachment men.

From its early organization the educational department received a great deal of assistance from the American Library Association, and with the arrival of a representative of this organization at the hospital arrangements were made by which the American Library Association could have its library in the educational building. The library was utilized as a study room for the members of the various academic classes, who found their reference material in the library.

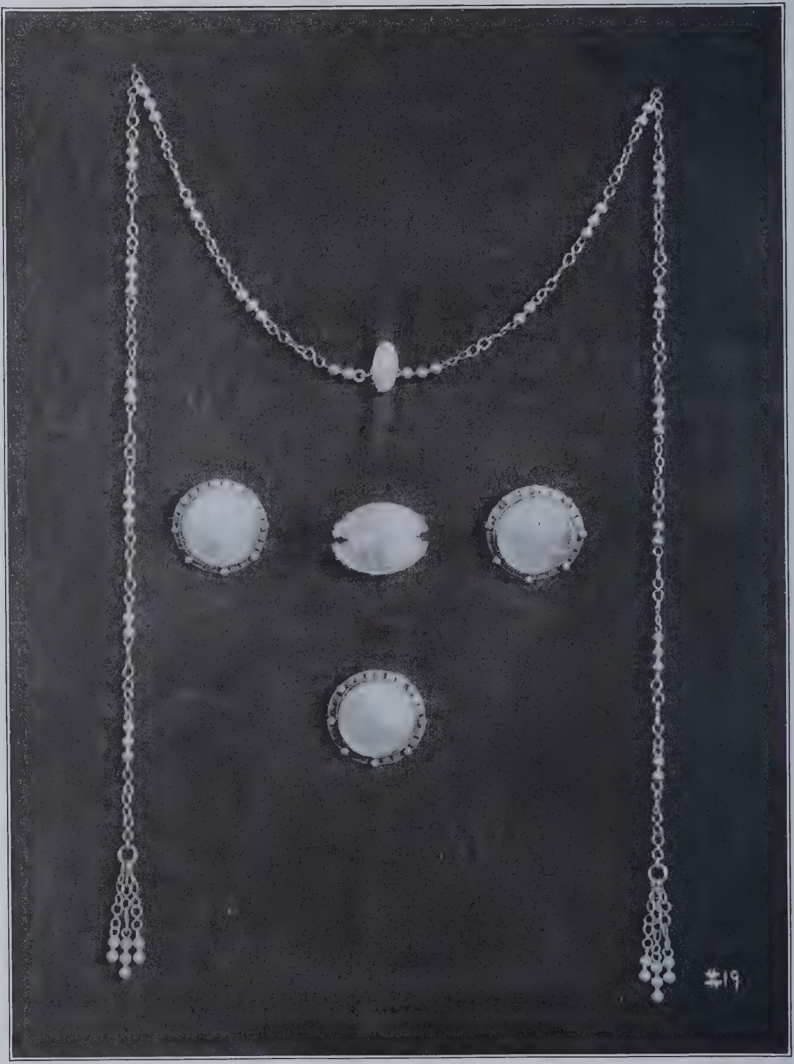

FIG 109.—Patients' work in jewelry class, General Hospital No. 2.

THE MESS.

With the arrival of the first officers and enlisted men in August, 1917, it was necessary to establish two messes, one for the officers and one for the enlisted men of the detachment. Additional messes were established for patient officers, for enlisted patients, and for the nurses. The first officers' mess was in ward 1, then the administration building, while the enlisted men's mess was in the basement of the same building. From ward 1 the officers' mess was moved into a set of officers' quarters, where it remained until the mess hall was completed in the spring of 1918.

About January 1, 1918, the enlisted men's mess was moved from the basement in ward 1 to barracks 2 and 3, and then to the immigration building, in May of the same year. At this time the mess for patients and enlisted men was consolidated. The permanent mess was sufficiently complete about August 1, 1918, to permit establishing therein the mess for the patients, about 800 in number. Several weeks later the enlisted men's mess was moved there from the immigration building.

As the number of patients and enlisted men increased it was found necessary to inaugurate the cafeteria system of serving meals. This was done about the middle of August, 1918, and was found so successful that it was continued in operation thereafter. It was exclusively for patients able to wait upon themselves.

About January 1, 1919, approximately 7,200 men were fed daily. The amount of food required for this number of men is indicated by the following figures: For a single meal, 16 dozen cans of corn, 350 pounds of potatoes, 16 dozen cans of tomatoes, 16 dozen cans of peas, 16 dozen cans of string beans, 800 pounds of meat, and 16 dozen quarts of milk. For breakfast 150 pounds of sliced bacon were consumed. Nine hundred pounds of bread, 100 pounds of butter, 140 gallons of coffee, 350 pounds of sugar, 5 crates of eggs were consumed daily. One hundred and twenty-five pounds of cereal, 100 gallons of ice cream, 6 crates of fresh fruit, 60 gallons of pudding, 8,000 to 10,000 cakes, 20 gallons of sirup were consumed. To cook and prepare this large amount of food required 150 employees. The mess hall contained a complete refrigerating plant, electrically driven meat choppers, and three large double ranges.

The special diet kitchen was installed in the lower wing of the general mess and was under the charge of the chief dietitian, who supervised the preparation of all diets connected with the general mess. It was operated very satisfactorily, and there were but few complaints. All purchases for this mess were made by the mess officer, and only sufficient food for 48 hours was purchased in advance.

POST EXCHANGE.

The post exchange was opened November 1, 1917, a small stock of merchandise being obtained on credit. The sales for the first month amounted to $210.

Subsequent additions to the exchange were a modern antiseptic barber shop, with 8 chairs, a well-equipped soda fountain, a tailor shop, restaurant, and laundry.

The total sales at the exchange amounted to $240,834.55. Dividends were paid to the hospital mess fund amounting to $7,647.50.

QUARTERMASTER DEPARTMENT.

The first quartermaster arrived for duty at the hospital September 21, 1917. At the time the armistice was signed and until May, 1919, about 200 enlisted men were on duty with the Quartermaster Corps, most of them being emergency men who were replaced by civilians; and from June until September, 1919, there was the same number of civilians carrying on the activities of the corps.

The functions of the quartermaster department were varied and were divided into 10 divisions, the names of each indicating its activities: Supply office (administration); finance division; medical supply division; subsistence division; clothing and equipage division; salvage division; transportation division; operating record division; Motor Transport Corps, and Quartermaster Detachment.

UTILITIES.

The utilities department was subdivided into departments of electricity, carpentry, plumbing and painting, police and fatigue, and the post fire department. The electrical shop was developed into a highly efficient working unit. Additional street lamps were installed throughout the post. The necessary poles were erected and the wiring was done by the utilities. A telephone fire alarm system was installed as well as an electric alarm connection from the fire station to the steam fire alarm whistle at the power house. Much of the wiring throughout the post had been changed in order to take care of the increasing load through the use of water heaters, sterilizers, and medical appliances. This was especially true in the X-ray and psychiatric departments, where many complicated machines were being used, requiring almost constantly the services of one electrician. A school of photography of the educational department, installed in building No. 50, necessitated much new wiring. The 56 electric motors throughout the post were overhauled and put in new condition. Nearly 6,000 electric lamps were used on the post, which, in order to conserve electricity during the period of the coal famine, were reduced about one-third. The carpenter shop force comprised five carpenters and four carpenter helpers. The frame type of construction used at the hospital necessitated many repairs. The acid fumes from manufacturing plants, just across the Patapsco River, caused many hundreds of yards of wire screening to disintegrate. All this had to be replaced, and in addition the new screening had to be painted. In May, 1919, this office completed the addition to the receiving ward at the cost of $3,000. Most of the material therefor was transferred from other camps by the Construction Division. Lockers for both nurses and patients were built and installed in all wards and quarters, and work benches and lockers were built in all the ward schools. The plumbing force consisted of 4 civilians, 1 enlisted man, and 1 helper. Changes in location of diet kitchens for bed patients made demands upon the plumber for new sinks, steam tables, etc. The sewage ejector of the immigration station was found to be too small to handle the increased load caused by crowding patients into these buildings, and a new and larger type of ejector was installed by this department in the spring of 1919. The water supply early in the year was found to be inadequate, so much so that at times it had to be cut off to permit refilling the storage tanks; so in July, 1919, funds were secured with which to augment the water supply. This was done by increasing the size of the city supply pipe for a distance of about 1,000 feet west of the post. The incinerator erected under the supervision of the utilities was well constructed and operated efficiently; all the garbage and trash from the entire post was disposed of through this plant, about 6 tons of material being handled daily, using about 600 pounds of soft coal for incineration. The fire-fighting equipment consisted of one combination hose and chemical truck and seven hand-drawn chemical wagons. Throughout the wards and corridors there were 367 chemical fire extinguishers, and water barrels and buckets were placed at every strategic point. Fire drills were held daily by the fire department personnel, and every second Thursday a general fire drill was attended by the entire post personnel.

THE REPOSITORIUM.

In view of the fact that many unique and wonderfully successful operations were performed on the wounded men in this hospital, it was thought advisable to make a permanent record of these operations, to be sent eventually to the Army Medical Museum in Washington. These records were made by means of charcoal, and pen and ink drawings, plaster casts, wax models, photographs, X-ray prints, model splints, and pathological specimens.

For the purpose of centralizing the responsibility and care of these records and of still further stimulating interest in the medical cases under treatment, a repositorium was created. Building No. 56, in which the old orthopedic workshops were located, was given over for this purpose, and here, in April, 1919, the staff of artists and modelers was established.

Among the interesting exhibits of work done subsequent to that time were many drawings and plaster casts showing the wounds of the head in different stages of healing, both before and after operation. The entire time of a sculptor was devoted to work connected with the maxillofacial department, making models in plaster and wax to represent as nearly as possible the original features of the men disfigured by high explosive injuries, thus greatly assisting the surgeons in their work of facial reconstruction.

Two very interesting exhibits were held in connection with the repositorium, one at Atlantic City during the week of the medical conference there in June, 1919, and the other later in the summer at the Medical and Chirurgical Building in Baltimore.

The following is a list of the exhibits received from the chief departments of the hospital.

Maxillofacial:	
Wax models	81
Plaster of Paris models	62
Charcoal sketches	80
Photographs	706
Orthopedic:	
Charcoal sketches	30
Photographs	41
Water-color paintings	6
X-ray plates for exhibition	8
Model splints	12
Plaster of Paris models	7
General surgical:	
Water-color paintings	19
Neurosurgical:	
Drawings and water colors	109
Plaster of Paris models	76
Ophthalmological:	
Photographs	50
Charcoal drawings	16
Water-color paintings	9
X-ray exhibition plates	1
Pathological:	
Water-color paintings	26
Specimens	18
Dental:	
Photographs	18
Drawings	13
X-ray exhibition plates	14
Plaster of Paris models	2

SCHOOL OF PHOTOGRAPHY.

Notwithstanding the fact that it was one of the youngest of the hospital schools, the school of photography grew so rapidly that in less than six months the number of students in attendance was more than 60. In June, 1919, great truck loads of photographic materials were brought from Camp Meade to Fort McHenry, and after the delays caused by the necessity of building dark rooms, and the installation of apparatus, the school was opened, subsequently playing an important part in the pictorial work of the hospital. The students of the school, with their large, complicated Graflex cameras soon became a familiar sight about the hospital, and no events of general interest were allowed to pass unphotographed. Both instructors and students worked together to make the school of photography not only a place where the enrolled could learn the photographic profession, but also to make it of help and benefit to the hospital. The school supplied the educational officer with a set of photographs of all the schools on the post, for the educational booklet which was printed at the hospital; it furnished the hospital paper, the *Trouble Buster*, with numerous photographs from time to time; and made photographs of the jewelry and other articles manufactured by the different schools.

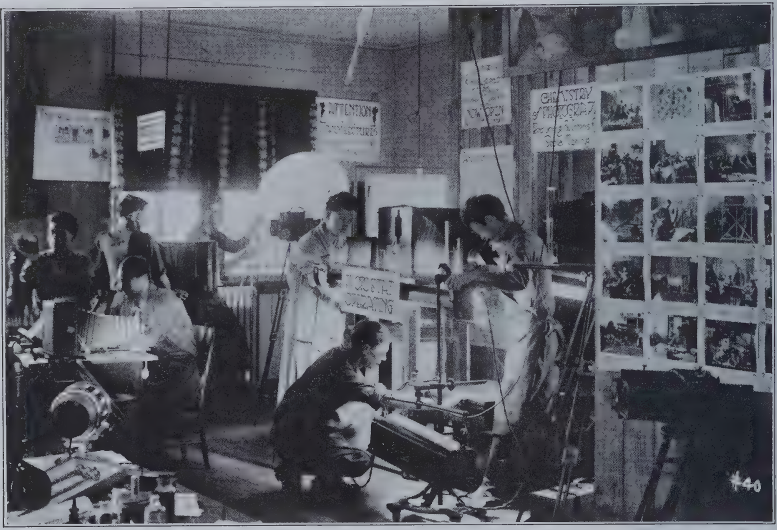

FIG. 110.—Patients' class in photography, General Hospital No. 2.

The school of photography was established in ward 28. This space was rapidly outgrown and the entire upper floor of building No. 50 was assigned to it and equipment was then secured.

All together about 150 men were enrolled for the course given in the department. Of this number, many advanced to such a stage as to cause them to decide that photography in one of its many branches would be their profession after discharge. The school averaged about 1,250 photographs per month, of which approximately 3,000 prints were made. Enlargements numbered 100 and Kodak developments about 100 per month.

THE LIBRARY SERVICE.

In the first week of December, 1918, the organization of the library at the hospital was begun. During the early days there was no regular system of circulation and no arrangement for the collection of books to be placed in the wards and changed from time to time. One of the wounded men who had been quietly watching the progress of the work asked one day if he could assist in any way, though he had but a left hand to offer. From that day and through many months to follow this thoroughly trained business man stood as adviser and assistant.

The generous support of the American Library Association made it possible for the soldier assistants to receive a small remuneration for the services rendered. This kept the library group intact for a longer period of time and made the hours spent there more worth while. It was through the medium of this training in library duties that more than one soldier with unsteady nerves came back to his former self in performing the small details necessary to maintain the efficiency of the work. During the 10 months that this little library school was in existence 8 patients spent from 1 to 3 hours daily at the library during some part of the 12 hours that the study room was open.

The room in the post exchange, which had been assigned for library use, soon became too small for the needs of a reading room which would serve the entire post. The Young Men's Christian Association hut was not ready for occupancy and the Red Cross Convalescent House was not finished by the 1st of March, 1919, so the educational officer set apart a large sunny schoolroom for library purposes, which became a distinct asset to the educational department of the hospital in that it served the double purpose of a study room and reading room for all, and a circulating department for the text books needed in the schools. When the circulation increased to meet the needs of the class room and the requests of the reconstruction aides, who taught the bed patients in the wards, there were at all times between 500 and 550 books charged to the educational department.

A reading room was provided, but how to furnish it became a problem. An appeal was made to the Secretary of the Peabody Institute of Baltimore, which brought a ready response in the nature of furniture, old and new; and a sufficient number of Windsor chairs was obtained from another post to equip the reading room of the library very comfortably.

The main library and reading room in the educational building soon became the center of the little system which very soon included a collection of fiction in the Young Men's Christian Association hut and the Red Cross house, where the object of each was more recreational than otherwise, and where the assistants in charge referred back to the study room when books of nonfiction were desired.

The ward collections were changed or added to from time to time, the supply coming from the main library in the educational building.

While the chief aim was always service, yet there was a well-formed plan to reach the men and persuade them to visit the library themselves rather than to serve them too generously in the wards. If a man could make an effort to go to school he could pass through the library in his own school building or in the building adjoining, coming to or from classes, and obtain his study books or fiction.

In the meantime the wards were distributed daily with home newspapers, for the patients who could not get out, and with popular stories, magazines, and books especially requested by the patients.

The library at General Hospital No. 2 laid stress upon the educational side of the library work, due to the character of the hospital and the large part played by the vocational school.

THE CONVALESCENT CAMP.

Situated on a delightful site on a bluff overlooking the Severn River, about 7 miles from Annapolis, was an ideal spot for a convalescent camp. Through the generosity of a resident of Baltimore, the use of this site, the Kelly Estate, was donated, and after the camp was started a large number of workmen from Baltimore went down to the place on several occasions and gave their services in erecting the buildings.

FIG. 111.—A view at Camp Purnell. Patients bathing. General Hospital No. 2.

On April 13, 1918, the camp, Camp Purnell, was officially presented to the hospital. On September 7, 1918, a monster military atheltic meet was held at Homewood, Baltimore, teams from every Army and Navy camp in the State participating, and the proceeds, amounting to about $10,000, were donated to the camp. A special mess hall was built where about 100 men were fed daily; a separate lighting system was installed and a pumping system for the camp water supply. In addition there were built a bungalow for the commanding officer, special barracks for the officer patients, and tents for the enlisted men.

Some of the most attractive features of the camp in the way of recreation were the fishing and bathing in the Severn River. Several boats and numerous bathing suits were bought for the camp and furnished free of charge to the patients. Every week the officers and nurses made special trips to the camp for an outing. The Red Cross gave moving picture exhibitions weekly; the American Library Association supplied books; and in addition there were victrolas and pool tables supplied by the Young Men's Christian Association, so there was no lack of amusements.

A separate mess consisting of liquid and soft diets for the maxillofacial patients was established by the Red Cross, which sent several volunteer workers several times a week to prepare this food.

There were on an average 100 patients at a time at the camp. As a result of the recreation and change they improved rapidly in health.

FIFTY–FIFTY LEAGUE.

The patients' Fifty-Fifty League was formed by the commanding officer of the hospital on July 4, 1919, for the purpose of permitting the patients to govern themselves. In this way the commanding officer proposed to make better citizens of them. The first meeting of the league was held on October 20, 1919, at the Red Cross Convalescent House. Thereafter, the league met every Monday afternoon at the Red Cross House, each ward being represented by a delegate elected by the majority vote of his ward. At these meetings the delegates transacted all business concerning the welfare of the patients and the hospital and drew up resolutions which were presented to the commanding officer for his approval.

The league made every effort to cooperate with the administrative officers of the hospital. Through the efforts of the league the patients were issued honor cards, which literally solved the problem of passes. Every patient was entitled to make application for these cards. The league officers then investigated the character of the man and upon approval presented the application to the commanding officer to be signed. In this way the ward surgeons were relieved of the old and troublesome daily pass system, and over 700 men enjoyed the privileges of a permanent pass. The league, in addition, came to the assistance of ward surgeons by issuing mess tickets to the men who were unable to eat after cafeteria fashion. The league was entrusted with the distribution of street car tickets, which were given to the patients by the street car company of Baltimore, that they might travel around the city on the cars, free of charge.

The executive officers helped the men straighten out their allotment troubles and insurance difficulties, and from time to time informed them of the changes in soldier legislation.

A preamble of the constitution and by-laws, written entirely by the soldiers, explains how the patients cooperated in making the hospital a happy and contented place.

PREAMBLE.

We, the patients of U. S. A. General Hospital No. 2, have gathered together for the purpose of creating a strong and effective public opinion, founded on the higher principles of citizenship, which obligate us to support existing authority and to make it increasingly effective.

Our purpose is to cooperate with those in authority in carrying out law and order and to make it possible for them to grant a maximum of liberty to all concerned.

We believe that by force of public opinion we can persuade men to so conduct themselves that a higher degree of law and order will result, thus rendering many of the present regulations and restrictions unnecessary.

For these reasons, and for the purpose of meeting the commanding officer in the effort to give the maximum of liberty, we, the delegates, have, with his approval, adopted the following constitution:

Article I.—Name.

1. This Association shall be known as the Patients' Fifty-Fifty League.

2. The purpose of this league will be to foster and perpetuate real Americanism and respect for constituted authority in ourselves and our respective communities; to inculcate a strong sense of personal responsibility, loyalty, and individual obligations to our local governments and to our Nation; to combat selfishness and disloyality wherever found; to promote at all times self-sacrifice, cooperation, harmony, and respect for the rights of others; to consecrate ourselves to the furtherance of the principles of justice, freedom, and democracy.

Article II.—Membership.

1. The membership of the league shall be made up of all patients of this hospital who shall be represented by one delegate, or his alternate, from each ward, who shall be elected by a plurality vote of that ward, at a monthly meeting on the last Tuesday of each month.

2. The delegate shall represent his ward at all meetings; transmitting to the main body all resolutions and complaints or suggestions brought to his attention.

3. He shall acquaint his ward with all the business transacted at the meetings of the delegates.

4. It is the duty of every patient of this hospital to make himself personally responsible for the strict observance by himself and others of the principles laid down in this constitution.

5. No member shall decline an office to which he is elected or appointed, or refuse any duty assigned to him in accordance with the provisions of this constitution and by-laws, unless excused by the league by vote of general consent, or by the president, to whom any member may appeal.

Article III.—Officers.

1. The officers of this league shall consist of a president, vice president, and a secretary.

2. The officers of this league shall be elected by a plurality vote of the delegates.

3. The officers of this league shall hold office for a term of two months.

4. The president shall preside at all meetings. The vice president shall act in the place of the president in his absence. The secretary shall keep a record of all matters pertaining to the league and attend to the necessary correspondence. The officers shall perform such other duties as are connected with their office and as set forth in the by-laws.

Statistical data, United States Army General Hospital No. 2, Fort McHenry, Md., from October, 1917. to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
October	......	4	......	......	4	4	......	......	......	......	......	......	......	......	......	......	22
November	......	4	......	......	4	3	......	......	......	......	......	......	......	1	......	10	9
December	1	10	2	4	17	10	......	......	......	......	......	......	1	6	......	98	......
1918.																	
January	6	24	64	14	108	27	2	......	......	......	......	......	......	79	......	687	......
February	79	23	360	15	477	43	......	......	......	......	......	......	12	422	......	2,928	31
March	422	52	122	29	625	76	4	11	......	......	......	139	29	366	......	13,010	36
April	366	33	78	51	528	65	3	10	......	......	......	324	33	93	......	3,731	50
May	93	37	178	37	345	90	......	4	4	......	......	7	11	229	......	5,034	5
June	229	18	278	48	573	163	......	19	......	......	......	6	16	369	......	11,241	......
July	369	23	365	60	817	162	1	31	1	......	......	6	63	553	......	14,688	18
August	553	51	421	102	1,127	263	1	51	2	......	......	14	78	718	......	19,744	17
September	718	89	844	119	1,770	459	14	105	2	......	......	19	142	1,011	18	23,847	66
October	1,029	102	603	133	1,867	960	121	46	......	......	......	12	54	670	4	26,736	548
November	674	53	1,034	116	1,877	439	6	38	......	......	......	14	60	1,320	......	22,560	48
December	1,320	66	526	77	1,989	727	14	55	......	......	......	34	212	947	......	58,003	110
1919.																	
January	947	167	1,379	170	2,663	874	11	19	......	......	......	37	112	1,602	8	43,129	155
February	1,610	106	1,060	170	2,946	980	16	21	......	......	......	41	208	1,669	11	50,331	295
March	1,680	113	1,389	235	3,417	915	12	18	......	......	......	35	329	2,108	......	59,314	343
April	2,108	79	697	407	3,291	924	11	38	1	......	......	78	486	1,746	7	40,083	172
May	1,753	69	874	388	3,084	741	5	21	......	......	......	44	385	1,886	2	57,012	490
June	1,888	48	1,310	385	3,631	777	8	37	3	......	......	83	441	2,281	1	62,885	38
July	2,282	60	888	535	3,765	915	1	......	......	......	......	61	568	2,219	1	67,779	10
August	2,220	53	272	471	3,016	418	4	104	7	......	1	34	760	1,687	1	59,239	6
September	1,688	50	194	526	2,458	228	5	98	5	129	......	49	444	1,500	......	47,414	4
October	1,500	63	790	424	2,777	179	1	159	8	......	......	79	459	1,890	2	54,646	26
November	1,892	42	482	381	2,797	173	2	82	2	......	......	49	375	2,112	2	59,167	37
December	2,114	68	65	301	2,548	349	3	260	......	......	......	39	702	1,193	2	52,028	67

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1917.				
November	8	7	5	20
December	0	11	12	23
1918.				
January	0	12	12	24
February	5	15	12	32
March	5	15	12	32
April	5	24	14	43
May	5	24	14	43
June	5	24	14	43
July	1	37	9	47
August	0	49	8	57
September	0	60	8	68
October	0	60	8	68
November	0	85	8	93
December	0	91	13	104
1919.				
January	0	90	13	103
February	0	168	11	179
March	0	183	12	195
April	0	193	12	205
May	172	154	11	337
June	91	140	6	237
July	93	147	7	247
August	191	176	15	382
September	4	20	18	42
October	4	20	18	42
November	4	20	18	42
December	4	20	18	42

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[a] Compiled from monthly returns, and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 2, Fort McHenry, Md., from October, 1917, to December, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	11	1	2	4	18	4	22	....
October	5	2	2	9	89	17	106	....
November	8	2	2	12	89	17	106	....
December	15	2	2	19	119	19	138	....
1918.								
January	15	2	2	19	126	28	154	12
February	27	3	3	33	136	39	175	13
March	33	3	3	39	144	52	196	32
April	37	3	3	43	169	74	243	38
May	34	3	3	40	219	74	293	33
June	39	5	2	46	278	71	349	44
July	37	10	2	49	276	73	349	38
August	49	10	2	61	308	77	385	41
September	38	9	2	49	331	80	411	69
October	34	10	2	46	388	142	530	90
November	34	15	2	51	464	145	609	96
December	59	12	7	78	692	171	863	123
1919.								
January	74	12	8	94	684	175	859	135
February	105	13	7	125	680	174	854	145
March	117	14	8	139	729	135	864	158
April	115	14	10	139	714	103	817	165
May	95	12	14	121	734	64	798	177
June	75	15	15	105	691	38	729	175
July	88	15	15	118	730	3	733	187
August	97	14	18	129	674	10	684	184
September	80	10	17	107	668	12	680	184
October	63	10	8	81	774	13	787	182
November	63	8	8	79	675	27	702	178
December	63	10	8	81	669	32	701	173

CHAPTER XVII.

THE GENERAL HOSPITAL (TUBERCULOSIS).

GENERAL HOSPITAL NO. 21, DENVER, COLO.[a]

PHYSICAL CHARACTERISTICS.

Geographic location.—General Hospital No. 21 was located at Camp Miles, due east of Denver, with which place it was connected by two main highways—Colfax Avenue and Mount View Boulevard. Colfax Avenue was a macadam road and Mount View Boulevard had a clay surface. The Kansas City branch of the Union Pacific Railroad passed within 1 mile of the reservation, a spur track having been projected from Sable Junction on that railroad to the hospital. A tramway connected Denver and Aurora, a small town 2 miles from the reservation.

Terrain.—The reservation comprised 595 acres of nearly level plateau, from which there was a splendid view of the neighboring mountains and surrounding country.

Soil.—The soil is a moderately rich loam with a clay subsoil.

Climate.—The following climatic data from the city of Denver, covering a period of 20 years, were secured through the courtesy of the United States Weather Bureau: The mean temperature for 20 years was 50°; the minimum, minus 21°, and the maximum, 101°. The minimum temperature above noted was in January, 1913. The lowest recorded temperature since 1872 was in January, 1875, when the thermometer fell to minus 29°. The maximum temperature during the 20-year period was in July, 1910. Only three times within 20 years did the temperature reach 100°: in August, 1901, July, 1902, and in July, 1910. The climate was characterized in summer by warm days and cool nights and in winter by a considerable amount of sunshine and the absence of long-continued cold. These data are for the city of Denver, where the temperature was several degrees warmer than at General Hospital No. 21, due partly to the more exposed position of the hospital and partly to its increased elevation—1,000 feet. Humidity ranged from 44 per cent to 50 per cent annual mean. Sunshine varied from 56 per cent to 75 per cent. The greatest annual rainfall for 20 years was 22.96 inches, for the year 1909. The lowest was 7.75 inches, for the year 1911. The annual mean for the 20 years was 14.40 inches. The greatest recorded snow storm was in December, 1918, when 45 inches fell. The prevailing winds were from the south, and while distinctive storms were rare, high winds causing dust storms were rather common. The greatest recorded velocity was on August 6, 1877, when the wind reached 75 miles per hour.

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[a] The statements of fact appearing herein are based on the "History, General Hospital No. 21, Denver, Colo.," by Col. Henry Page, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

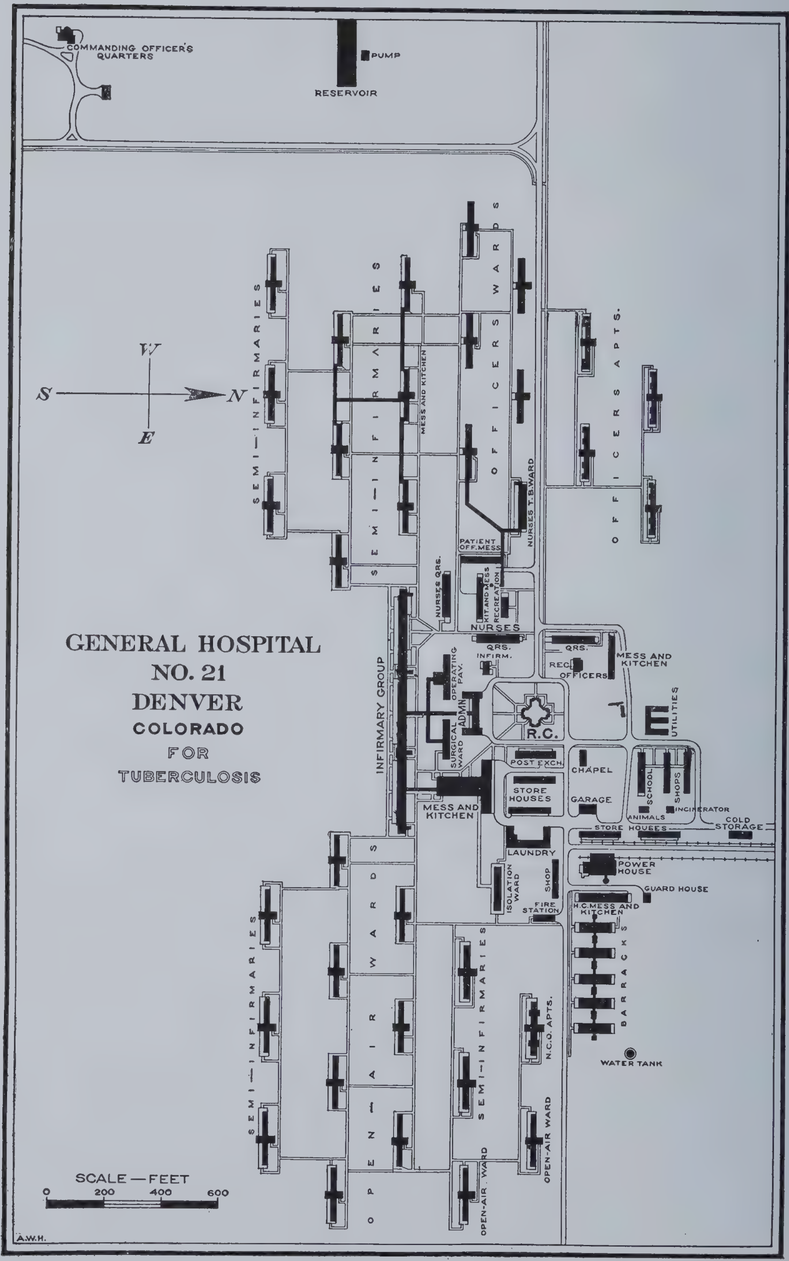
GENERAL HOSPITAL
NO. 21
DENVER
COLORADO
FOR
TUBERCULOSIS
COMMANDING OFFICER'S QUARTERS
PUMP
RESERVOIR
W
S
N
E
SEMI—INFIRMARIES
SEMI—INFIRMARIES
MESS AND KITCHEN
OFFICERS WARDS
NURSES T. B. WARD
OFFICERS APTS.
PATIENT OFF. MESS
NURSES QRS.
KIT. AND MESS
RECREATION
NURSES
QRS.
QRS.
INFIRM.
MESS AND KITCHEN
REC. OFFICERS
OPERATING PAV.
ADMIN.
R.C.
E
UTILITIES
INFIRMARY GROUP
SURGICAL WARD
POST EXCH.
CHAPEL
STORE HOUSES
GARAGE
SCHOOL
SHOPS
INCINERATOR
ANIMALS
MESS AND KITCHEN
STORE HOUSES
COLD STORAGE
LAUNDRY
POWER HOUSE
GUARD HOUSE
ISOLATION WARD
SHOP
FIRE STATION
H.C. MESS AND KITCHEN
BARRACKS
WATER TANK
SEMI—INFIRMARIES
OPEN-AIR WARDS
SEMI-INFIRMARIES
N.C.O. APTS.
OPEN-AIR WARD
OPEN-AIR WARD
SCALE—FEET
0
200
400
600
A.W.H.

Fig. 112.

Sanitary status of surroundings.—Serious epidemics in the city of Denver were unknown. The greatest annual occurrence of the more important communicable diseases was as follows:

Typhoid fever.

Year.	Cases.	Deaths.	Year.	Cases.	Deaths.
1906	884	89	1909	447	47
1908	711	74	1910	625	59

Subsequent to this time there was a gradual immunization against this disease until 1919, when there were but 62 cases and 9 deaths.

Scarlet fever.

Year.	Cases.	Deaths.	Year.	Cases.	Deaths.
1907	1,194	57	1913	878	51
1908	744	30	1918	773	7

Smallpox.—This disease appeared to be more prevalent than is consistent with well-enforced health regulations. The year of greatest frequency was 1918, when there were 898 cases; 1919, 567 cases; and 1911, 472 cases.

CONSTRUCTION.

On February 14, 1918, the Surgeon General recommended to the Secretary of War that a 995-acre tract of land near the city of Denver be leased at $1 per year. The site had been investigated by a representative from the Surgeon General's Office with a view to locating thereon a large general hospital for the treatment of tuberculosis. This request was approved by the Secretary of War on February 20, 1918, the lease being made with the Denver City and Commercial Association, and was dated, and became effective, on April 19, 1918. Of the various sites inspected in the vicinity of Denver the one selected was considered the most suitable.

The project for the construction which was to be installed was formally approved by the Secretary of War on March 27, 1918. The ground was broken on the 29th of the month following and construction actually begun on the 2d of May. Generally speaking, the hospital was laid out on a plan providing, in a central area, a large infirmary building for the bed cases, general cooking and messing facilities, administration, surgical, and other professional operative activities; and grouped about this area at intervals of 200 feet were the wards for all but the bed-ridden or infirmary cases. The first group of buildings to be constructed, 48 in all, comprised the administration building, officers' tuberculosis ward, officers' quarters, nurses' infirmary, operating pavilion, garage, officers' recreation building, exchange, central infirmary for 300 bed patients, 12 two-story tuberculosis wards for an average of 60 ambulant patients each, 1 isolation ward, 4 barracks for enlisted personnel, 3 storehouses, chapel, guardhouse, laundry, surgical ward, shop, 5 kitchens, mess for sick officers, duty officers, enlisted sick, nurses, other Medical Department personnel, and other miscellaneous buildings for a total capacity of about 1,000 sick.

The second group of buildings was erected later and consisted of 16 open-air wards, 3 officers' wards, nurses' quarters, a barracks, and a storehouse. Still later a third group of buildings, mostly wards, was erected. In addition, a school building and two curative shops for physical reconstruction work were constructed. In all 86 buildings of tile and stucco were constructed, the total cost of the project being $3,205,000.

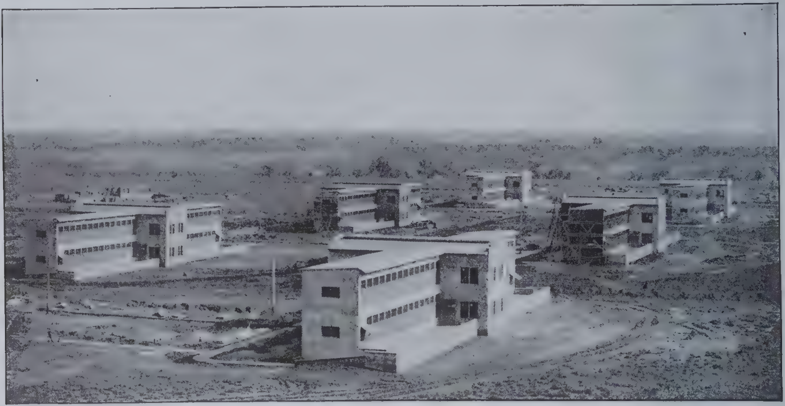

Fig. 113.—Wards (under construction), General Hospital No. 21.

The foundations of the buildings were of reenforced concrete, the walls above ground being made of terra cotta wall-tile stucco. The roofs were constructed of wood covered with a four-ply tar and gravel material, or with "Elaterite." Interior floors, partitions, and ceilings were of wood, the partitions and ceilings being covered with asbestos plaster board and two coats of wall plaster. The interior woodwork was of white pine covered with two coats of paint. All rooms for toilets, utility, and baths had cement floors.

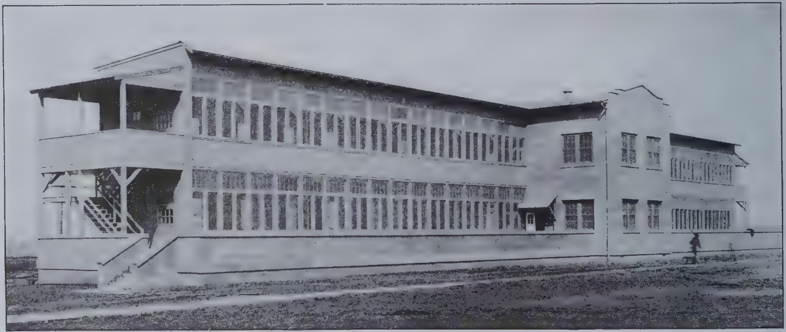

Fig. 114.—Open-air ward, General Hospital No. 21.

The large infirmary building accommodated the more serious ill and those confined to bed. This building was connected with the administration building and mess hall by covered corridors. The remainder of the ward buildings were widely separated and were not so connected, consequently patients going to and from mess were exposed to the weather and much inconvenience, and, in some cases, actual suffering. This widespread arrangement of the buildings made the hospital correspondingly difficult to administer and expensive to operate.

Five of the buildings were designed as officers' wards with a central lounging room and two wings on either floor. In each wing there were eight individual sleeping rooms opening on a semi-inclosed sleeping porch.

One of the buildings was designed to accommodate invalid nurses. This building was two-storied, both floors being similarly arranged.

Two buildings were erected as quarters for nurses, each containing 48 bedrooms. Another building, identical with the quarters for the nurses, was constructed and used as officers' quarters.

The post exchange was a one-story building containing, besides the store, a tailor shop and barber shop.

The barracks for the enlisted personnel of the Medical Department comprised five two-story buildings, each designed to quarter 100 men. Each floor was divided into two dormitories, 25 capacity each, and a separate room for a squad leader.

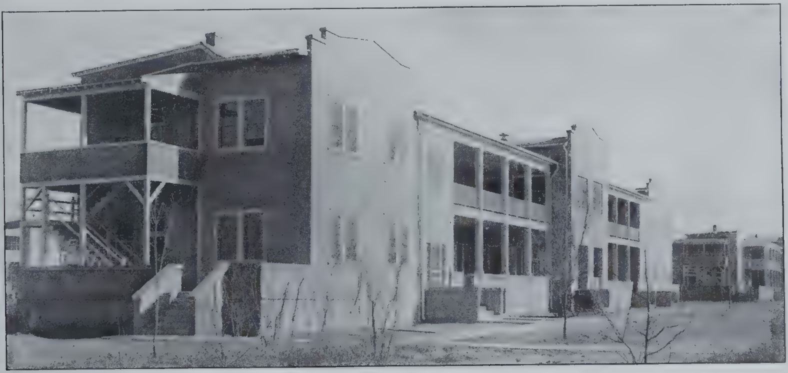

FIG. 115.—Officers' apartments, General Hospital No. 21.

The hospital possessed its own refrigerating and ice-making plant, installed in a two-story brick building. The plant consisted of a 9 by 9 inch Arctic ammonia compressor with a daily refrigerating capacity of 20 tons and an ice-making capacity of 7½ tons. In the building there were two large refrigerating rooms: One for meat, with 3,600 cubic feet storage capacity; and one for provisions and fruits, with 3,200 cubic feet storage capacity. The ice storage room had a capacity of 40 tons.

The floors, walls, and ceilings of the rooms of the refrigerating plant were insulated with two thicknesses of 2-inch cork and there was an overhead system of refrigerating coils and air circulation. A small 6-ton refrigerating plant, in addition to that described above, was provided for the general mess.

The educational service occupied four buildings, one of which was used as a schoolhouse. Two were used as curative shops and one as a shop building. All were one-storied except the schoolhouse, which had two stories.

Four buildings were designed for the storage and distribution of quartermaster and medical supplies. Each had a small office at one end of the building and there was a wagon platform extending the full length of one side. One building, approximately 13 by 27 feet, was designed for the incineration of patients' sputum and medical and surgical refuse. This building contained a fire-brick incinerating oven of 1-barrel capacity. Flame flues from the fire pot extended from each side over the incinerating chamber. The consumption capacity of the incinerator was 16 barrels for an 8-hour day.

Of the five mess and kitchen buildings the general mess was the most important and was operated for the enlisted patients. This general mess was a one-story building, T-shaped in plan, and was connected with the main infirmary and isolation ward buildings by corridors. The other mess buildings were the Medical Department detachment mess, duty officers' mess, patient officers' mess, and nurses' mess.

An old family residence on the premises was remodeled and converted to use as the commanding officer's quarters. It was a fairly modern two-story frame structure located near the southwest entrance to the hospital grounds. In connection with it was a good stable and garage, a cow barn, and a chicken house. Sewage from this building was carried to an old abandoned well, 72 feet deep, near by.

The Red Cross building was located in the center of the reservation. Facing this on the south was the administration building. Between the two was the flagpole. South of the administration building were the surgical ward on the east and the operating pavilion on the west. Infirmary buildings were next in order to the south, for which there was an unobstructed southern exposure. The general mess kitchen was located directly east of the administration building, and an inclosed corridor connected the administration building with the infirmary. This corridor was crossed by a smaller one joining the surgical ward and the operating pavilion. Southwest and southeast of the administration building were the semiambulant and ambulant wards.

Water supply.—Water was supplied from the city of Denver mains which were extended to the hospital from the town of Aurora. Its source was the mountains adjacent to Denver, from which it was piped to the city filter beds. The main to the hospital had a natural pressure varying from 25 to 65 pounds per square inch, which was augmented by the installation of a booster pump. Distribution within the hospital was effected through a 75,000 gallon pressure storage tank and tower. This tank had an elevation of 87 feet and when full its water level was 115 feet above the water main, giving an equivalent pressure of 50 pounds. Because the average depth of frost penetration frequently reached 3 feet all distribution pipes were laid about 5 feet below the surface of the ground, to prevent freezing. There were 59 fire hydrants located about 275 feet apart on the water lines. These hydrants had a 4-inch connection with a twin 2½-inch hose coupling, the hose connections being standard with the Denver fire department. The emergency water storage was provided in a concrete reservoir of 1,200,000 gallons capacity.

Sewerage system.—The soil pipes from buildings were 4-inch standard cast iron connected without to 6-inch tile sewer pipes which were run into 6, 8, and 10 inch collecting mains. Brick manholes 3½ feet in diameter were placed at intervals of about 400 feet. All connections between mains and branches, except at manholes, were made with Y branches. The main trunk line sewer was of 10-inch tile pipe, running north to 1,700 feet from the center of the grounds and emptying into a septic tank battery whose total capacity was 240,000 gallons. Each chamber of the battery was 12½ by 12½ feet square and 15 feet deep, with hopper bottom, all built of concrete. Sludge was withdrawn from the bottom of the chambers and discharged into a neighboring creek through an open ditch. The action of the tank was syphonic, sufficient pressure being collected to automatically operate the sprinkler heads on the filter bed. This filter bed was 55 by 186 feet, built with concrete retaining walls and concrete floor, filled with a crushed slag filter to the depth of 5 feet 9 inches. Distributing mains of the filter bed were connected with either end to 8-inch tile drains leading to the discharge sewer. An 18-inch tile storm sewer drained the low ground of the hospital, terminating in an open ditch which emptied into a draw near the septic tank.

The septic tank was located 938 feet north of the northernmost hospital building. The dosing tank was 500 feet beyond the septic tank and the filter bed was 460 feet more distant, all in a northerly direction. The final sewer pipe from the filter bed was 325 feet long.

Plumbing system.—The plumbing system was a continuous and revent system for the toilets and individual revents for the laboratories, bathtubs, and showers. All soil and waste pipes were carried under the floor or in the ground, the horizontal runs being cast-iron soil pipe. All vertical waste and vent pipes, 2 inches and smaller, consisted of galvanized and screwed drainage fittings.

The hot water for the hospital was furnished by hot-water heaters located in the power house, and was circulated throughout the grounds by turbine-driven centrifugal pumps. This maintained a constant circulation and prevented water from freezing during periods of small demand. Hot-water lines were carried in the same tunnels and trenches as the steam lines.

Waste pipes from all sinks in kitchens were carried through specially constructed concrete grease traps.

Lighting system.—The electric current for lighting and power purposes was obtained from the Colorado Power Co. Connection with the lines of this company was made at Utah Junction and transmitted over a 12½-mile, 3-phase, 13,200-volt transmission line to a transformer station on the hospital reservation. This transformer station consisted of two sets of three transformers each; either set of transformers, or both, being usable so that either set could be thrown into service to permit repairs without discontinuation of service. The pole lines were of the usual wood pole and cross-arm type of construction. The wire was triple grade weatherproof insulation; no smaller wire than No. 8 being used; and all interior wiring was run inside of black enamel iron conduits. Cut-outs, switches, and fuses were in iron boxes or cabinets. Infirmary wards had plug receptacles to facilitate connection of X-ray machines, electrotherapeutic apparatus, etc.

Heating system.—The central plant for heating the hospital buildings was located at the lowermost point to favor returns by the natural grades of the ground. The pressure carried on the heating mains varied from 50 to 60 pounds, readily increased to 100 pounds when necessary. All piping in tunnels and trenches was covered with asbestos air-cell pipe covering. Altogether about 4 miles of underground tunnels and trenches were required to carry the heating lines. Besides furnishing radiation for the buildings of the hospital, the plant furnished steam for use in the laundry.

Roads.—With the exception of the main entrance road none actually existed throughout the hospital grounds. The main road had a gravel surface and was unsatisfactory because it was muddy in wet weather and dusty when it was dry.

Walks.—All hospital walks were constructed of concrete with a width of 5 feet, and, wherever possible, roofing the steam trenches.

Actual construction of the buildings of the hospital began May 2, 1918. The first buildings were occupied and the hospital officially opened for the reception of patients on October 13, 1918. Though occupied by patients, the hospital was not officially completed until well into 1919.

ADMINISTRATION.

The staff encountered great difficulties in administration during this constructive period. They were handicapped by inexperienced assistants, and the necessity to contend with numerous difficulties in the nature of complaints from, and active resistance on the part of, many of the patients who, with exalted ego, considered themselves above law and discipline. In this attitude they were unfortunately encouraged by numerous well meaning but misguided civilians and overzealous volunteer welfare workers. In spite of these difficulties real constructive work was done, and of the camplaints made but few were found, upon investigation, to be based on fact.

The latter part of the fiscal year 1919 found practically a complete change in the administration of the hospital. Command was assumed by a regular officer of the Medical Corps and a new staff of more experienced officers was assigned. During the earlier days of the hospital's existence little or no effort was made to classify patients. Toward the end of 1919 a receiving ward was organized, and patients, upon admission, were diagnosed and classified as rapidly as possible and distributed to proper wards. One end of the infirmary ward was set aside for the very sick, which included those with advanced lesions, high fevers, or grave prognoses; another section of the infirmary was set aside for the moderately sick; and a third section was used for ambulant cases. Officers' wards were later similarly divided into an ambulant, a semiambulant, and an infirmary or very sick ward. In addition, one ward of the infirmary group was set aside for the seriously ill officer patients. The receiving ward was located in the infirmary building and in this ward all new cases were treated until definite classification could be made.

As rapidly as the outside wards were completed patients not requiring infirmary treatment were transferred to them, thus relieving the congestion in the infirmary wards.

The maximum bed capacity of the hospital was reached in August, 1919, when approximately 1,400 patients were being treated.

About August 1, 1919, the chief of the medical service instituted a course of lectures and talks to patients on personal hygiene, and tuberculosis, its complications and rational treatment. All lectures were illustrated with lantern slides and talks were made sufficiently plain to be intelligible to the layman.

A school of instruction for the training of medical officers was also inaugurated, having special reference to the diagnosis and treatment of tuberculosis. This course was found essential not only for the general professional advancement of the medical officers but to secure an adequate permanent staff for the hospital, since many of the officers assigned for duty had but limited training in the diagnosis and treatment of pulmonary tuberculosis. This course also provided a selection from among the medical officers on duty of the best available diagnosticians and clinicians for assignment to the more important infirmary wards, boards, etc. The results attending these lectures were most gratifying. Frequent changes in personnel consequent upon discharge of emergency officers and their replacement by members of the regular service necessitated a continuation of these courses.

HOSPITAL SERVICES.

LABORATORY SERVICE.

The laboratory service was quite active and during the year 1919 made over 75,000 examinations. These examinations included routine analyses, blood chemistry, zoology, histology, and bacteriology. The service was made responsible for the proper conduction of autopsies, tissue examinations, and the preparation and inspection of the bodies of deceased soldiers.

Three officers were assigned to duty in the laboratory department. In addition there were six enlisted men, two female technicians, and a varying number of patient nurses who were given instruction in laboratory technique. This work of giving instruction in laboratory technique to patient nurses was primarily undertaken without specific authority, but with the idea that it would give nurses, upon return to civil life in a partially disabled state, an additional opportunity for earning a livelihood. The results obtained were very satisfactory and authority was later received to make the instruction a definite routine.

SURGICAL SERVICE.

The general surgical service was necessarily the smallest in the hospital, the surgical work which was done being principally incidental. The service included general surgery, eye, ear, nose and throat, dental, and genitourinary work. Two officers were assigned to the section of general surgery, four to dental surgery, two to the eye, ear, nose and throat department, and one to the genitourinary department. By far the largest of the sections was the dental service, in which, in addition to the four officers regularly assigned, there were, from time to time, several patient officers. A dental survey was made of all patients, and any necessary treatment was promptly given. Upon its establishment, the dental service occupied three rooms in the administration building. Portable outfits only were at first used and the scope of the dental work was necessarily limited. As the hospital enlarged, however, this service automatically increased until the clinic in the main building comprised six rooms. Three were for operating, one for administrative purposes, one for a reception room, and one for a laboratory. Dental chairs were installed in the infirmary where much of the emergency work for infirmary patients was done. A valuable addition to the dental equipment was the dental X-ray unit. A complete dental examination was recorded on clinical records, and any diseased condition found was promptly treated. The importance of focal infection became great subsequent to the establishment of the hospital, and it was given special attention in the dental service.

EDUCATIONAL SERVICE.

This service was instituted in June 1919, with a teaching staff of 23 and an enrollment of 73. The work performed was both curative and educational, the first being considered of paramount importance. The percentage of enrollment in the educational service was very gratifying; approximately 60 per cent of the patients passing through the hospital were enrolled in some branch of the educational work. It was very noticeable that complaints were rarely heard from patients who took an active interest in vocational training. Obviously in infirmary wards little instruction, except in academic subjects, could be given. As the patients became ambulatory, however, classes of instruction and work in shops and crafts were taken up.

In connection with the educational and recreational service an enlisted service club was operated, directly under the chief of the educational service. This department seemed justified, as the club rooms were at all times well patronized and there was an increase in the demand for library books. Dances for enlisted men were given twice monthly and were usually well attended. Ladies of the city of Denver secured and chaperoned young ladies for these dances. Provision was made for various athletic sports which included basket ball, baseball, tennis, wrestling, and boxing.

A "fifty-fifty" league was organized, in connection with morale work, with branches in each ward and in the detachments, representatives of which met in an executive body to take up and recommend to the commanding officer matters of improvement deemed by them advisable. Questions of policy arising from other sources were frequently referred to this body to secure an expression of opinion.

MESSING.

From the time of the establishment of the hospital, separate messes were conducted for enlisted patients, officer patients, nurses, Medical Department detachment, and duty officers. With the exception of the last-named class of personnel, the financial accounting for these messes was consolidated, though separate accounts were kept of the cost of operation, income, etc. Subsequently the detachment mess was consolidated with the general mess to secure economy of operation and operating personnel.

During the earlier days of the hospital much unfavorable criticism was directed toward the several messes operated. Investigation, however, conclusively showed that the conditions were never as bad as represented. Errors in management existed, but these were believed to have been due rather to lack of experience than to intentional wrong. This department of the hospital received more attention than any other and every effort was put forth toward securing efficient service. While the messes were at times not quite so good as it was desired to make them, the fact that tuberculosis patients are habitually discontented and inclined to grumble was taken into consideration. Their fickle appetites frequently made them refuse dishes which had been especially requested by them. This psychological condition was not infrequently encouraged by well meaning but misdirected sympathizers who, with laudable desire to cheer the sick, only made them discontented with their lot and environment.

Another difficulty under which the mess was administered was a financial shortage. For the latter half of the year 1919 a large percentage of the patients were beneficiaries of the Bureau of War Risk Insurance, from which it was practically impossible to receive prompt payment.

PERSONNEL

Under this heading may be enumerated the greater portion of the troubles with which the administrative staff of the hospital had to contend. Upon the signing of the armistice, which occurred shortly after the hospital was established, emergency medical officers and enlisted personnel, being desirous of returning to civil life, became greatly dissatisfied with the service. This mental condition was invariably reflected upon the character of work performed. Immense pressure was brought to bear directly and indirectly through Congressmen, governors, legislators, municipal officers, and others to secure release of men from the service. In spite of every effort to maintain morale, the spirit of discontent prevailed. The task of replacing emergency personnel by those of the Regular Army was naturally slow and with the lapse of time the spirit of unrest materially increased. This was especially true of the enlisted personnel. In the summer of 1919 the commanding officer adopted the policy of discharging emergency men according to length of service, deviating from this rule only in cases of extreme emergency or because of misconduct of the soldier. Rosters were prepared according to length of service. Infractions of discipline and neglect of duty were punished by demerits, placing the man concerned lower on the list for discharge. This policy notably improved the character of the services rendered: the men appreciated that their discharge would be expedited by good work but would be retarded by unsatisfactory conduct or neglect of duty.

Statistical data, United States Army General Hospital No. 21, Denver, Colo., from September, 1918, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
September	......	7	......	......	7	7	.....	.....	.....	.....	.....	.....	.....	......	......	18	
October	......	39	72	......	111	21	.....	.....	.....	.....	.....	2	.....	83	5	836	108
November	88	89	372	2	551	92	.....	.....	.....	.....	.....	8	.....	449	2	9,869	201
December	451	92	211	18	772	83	5	1	.....	.....	.....	.....	74	605	4	16,280	213
1919.																	
January	609	211	236	65	1,121	220	5	.....	6	.....	.....	10	.....	880	......	25,824	304
February	880	171	196	56	1,303	237	7	6	1	.....	.....	1	132	908	11	20,620	151
March	919	129	255	155	1,458	250	9	1	.....	.....	.....	1	149	1,040	8	24,487	63
April	1,048	108	300	115	1,571	220	14	2	.....	.....	.....	.....	102	1,231	2	35,076	105
May	1,233	65	316	114	1,728	198	13	2	.....	.....	.....	1	139	1,368	7	40,923	88
June	1,375	86	260	146	1,867	212	12	22	.....	.....	.....	20	190	1,405	6	37,062	110
July	1,411	68	134	181	1,794	91	15	132	.....	1	.....	7	185	1,358	5	37,783	164
August	1,363	90	243	143	1,839	88	19	200	.....	.....	.....	3	150	1,371	8	41,449	135
September	1,379	93	229	141	1,842	90	10	206	.....	.....	.....	6	148	1,374	8	40,906	209
October	1,382	133	85	128	1,728	118	16	221	.....	.....	.....	12	86	1,267	8	40,752	200
November	1,275	144	174	77	1,670	98	12	191	.....	.....	.....	6	59	1,282	22	36,754	111
December	1,304	171	14	60	1,549	140	7	158	.....	.....	.....	8	176	1,047	13	36,435	51

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					**1919.**				
September	2	....	....	2	April	54	46	....	100
October	14	....	....	14	May	118	36	....	154
November	12	....	....	12	June	112	39	....	151
December	3	32	....	35	July	169	91	....	260
					August	157	89	....	246
1919.					September	198	117	....	315
January	3	32	....	35	October	204	124	....	328
February	21	51	....	72	November	193	129	....	322
March	16	38	....	54	December	170	115	....	285

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Aides and workers.	Other civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous. (Q. M. C., etc.)	Total.	Medical Department.	Miscellaneous. (Q. M. C., etc.)	Total.			
1918.										
September	7	5	1	13	50	....	50	....	....	....
October	40	5	2	47	119	25	144	54	....	....
November	46	5	6	57	256	39	295	61	....	....
December	40	7	7	54	482	41	523	64	....	....
1919.										
January	48	9	6	63	561	87	648	90	....	....
February	54	11	12	77	525	125	650	99	....	....
March	55	14	11	80	561	161	722	101	....	....
April	59	15	13	87	549	128	677	115	....	....
May	61	15	15	91	540	85	625	116	....	....
June	59	14	16	89	527	60	587	119	....	....
July	53	15	21	89	519	47	566	128	....	....
August	57	13	20	90	617	49	666	137	....	....
September	54	13	20	87	577	39	616	157	48	55
October	51	11	15	77	561	41	602	152	61	81
November	51	11	15	77	510	52	562	156	59	108
December	50	11	14	75	414	56	470	148	58	108

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

CHAPTER XVIII.

THE GENERAL HOSPITAL (NEW).

GENERAL HOSPITAL NO. 3, COLONIA, N. J.[a]

In June, 1917, a resident of Colonia, N. J., offered his home to the Surgeon General for hospital purposes. This elegant place was situated on the Lincoln Highway, 22 miles from New York City, and about 1½ miles from the Pennsylvania Railroad, with which it was eventually connected by spur. On the property was a large house which the owners wished used as a hospital for 100 beds. The original intention of the owner was to equip the building with beds, linen, china, etc., and the Mercy Committee of New Jersey had volunteered to continue its maintenance.

PHYSICAL CHARACTERISTICS.

Terrain.—The country in this section of the State is rolling, witn wooded portions; the site of the hospital buildings is at an elevation of about 126 feet above sea level. The soil is sandy with an overlying surface of clay. As a result there is practically no high-flying dust in dry weather, but a considerable amount of sticky and easily carried clay-mud following rains.

Climate.—The climate is moderate, as in northern New Jersey. The hospital site was not exposed to winds.

Hospital environment.—In the hospital neighborhood were many farms of the poor sort whose owners lived in a most primitive manner, earning their livelihood as best they could by small trucking or day laboring. In the immediate vicinity of the hospital there was a high class residential district, comprising several country estates. The hospital environments were satisfactory from a sanitary standpoint; the buildings were on a broad plane of about 70 acres with a gentle southeast slope, affording good drainage and the desired sun exposure.

HOSPITAL CONSTRUCTION.

A hospital of but 100 beds was deemed too small for practical purposes; consequently, plans for a 250 or a 500 bed hospital, to be designated Reconstruction Hospital No. 3, modeled and organized like the Boston reconstruction hospital, was contemplated. Even so late as November, 1917, tentative plans for a small special (reconstruction) hospital persisted. Meanwhile, the Secretary of War authorized the acceptance of the Colonia place, providing the Medical Department appropriation would cover all the expenses. A nominal lease, at $1 per year, was executed.

By December, 1917, the plan for the utilization of special hospitals was largely given up and preliminary plans for a 1,000 bed hospital at Colonia had been provided and sent to the Quartermaster General for construction.

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[a] The statements of fact appearing herein are based on the "History, General Hospital No. 3, Colonia, N. J.," by Col. Fred H. Albee, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised Official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

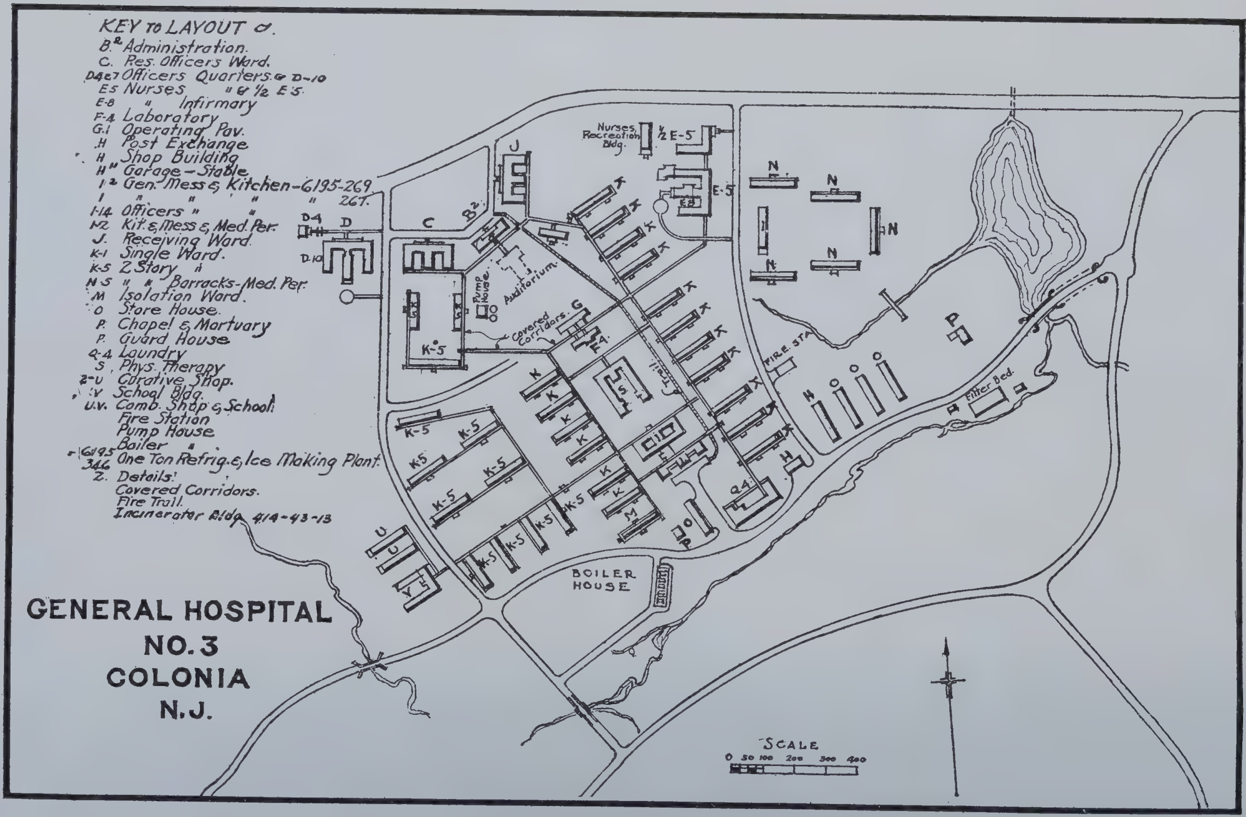
KEY TO LAYOUT ♂.
B.² Administration.
C. Res. Officers Ward.
D4 & 7 Officers Quarters & D-10
E5 Nurses " & ½ E5.
E-8 " Infirmary
F-4 Laboratory
G.1 Operating Pav.
H Post Exchange
H Shop Building
H" Garage—Stable.
I² Gen. Mess & Kitchen—6195-269
I " " " " 267.
I-14 Officers " "
M2 Kit. & Mess & Med. Per.
J. Receiving Ward.
K-1 Single Ward.
K-5 2 Story "
N-5 " " Barracks-Med. Per.
M Isolation Ward.
O Store House.
P. Chapel & Mortuary
P. Guard House
Q-4 Laundry
S Phys. Therapy
2-U Curative Shop.
V School Bldg.
U.V. Comb. Shop & School.
Fire Station
Pump House
Boiler "
6195 346 One Ton Refrig. & Ice Making Plant.
Z. Details:
Covered Corridors.
Fire Trail.
Incinerator Bldg 414-43-13
GENERAL HOSPITAL
NO. 3
COLONIA
N.J.
Nurses Recreation Bldg.
½ E-5
E-5
E-8
J
B²
C
D4
D
D-10
K-5
Pump House
Auditorium
Covered Corridors
G
F4
S
Trail
K
K-5
M
O
P
Q-4
H
FIRE STA.
N
P
Filter Bed
U
V
BOILER HOUSE
SCALE
0 50 100 200 300 400

FIG. 116

Construction began on February 2, 1918, and while in progress a 500-bed addition was planned, the construction of which was requested on February 23. Here, as at General Hospital No. 2 and many other general hospitals, the buildings pertaining to physical reconstruction work were not built for some time. The plans for these buildings were in process of constant revision in the Surgeon General's Office, due to indefinite requirements for equipment, and were not suitable for release at the time. Later, however, these special buildings were secured, and, from time to time, additional small items of construction were added. These additional items were relatively few, however, and by June, 1918, a 500-bed section was opened for patients, the designation "General Hospital No. 3" being given.

Unlike the first two general hospitals (Nos. 1 and 2), General Hospital No. 3 was constructed upon relatively unimproved land; and considerable road construction was necessary; water was brought from a distance; a laundry was constructed; and a complete sewerage system and sewage disposal plant (septic tank, filter bed, and humus tank) were installed.

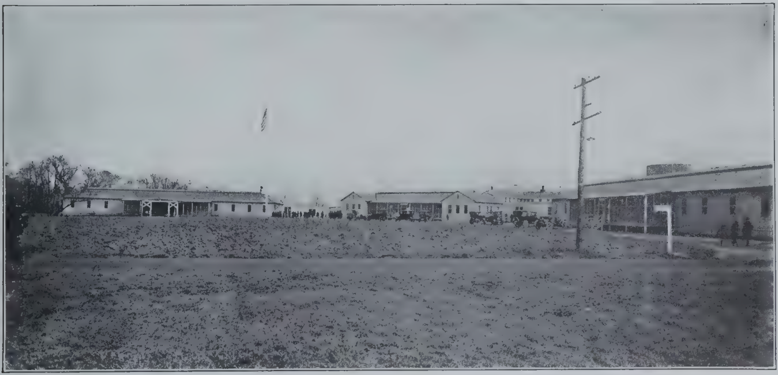

FIG. 117.—View of front of General Hospital No. 3.

Much of the expense and delay in the construction of this hospital resulted because no railroad spur connected the railroad siding 2½ miles distant; and all materials for this large project were hauled by trucks over a road which, in the spring of 1918, became almost impassable. After the construction period was over such a spur track was put in operation.

By October the major portion of the construction had been completed and 1,700 beds were available for use. Approximately 100 buildings were constructed. The total cost was $2,750,000.

This was a typical general hospital, complete in every department, but in addition certain special work was provided for. Full physical reconstruction facilities were installed, many in the reconstruction division where special attention might be given amputations, organic diseases of the nervous system, injuries of the brain, spinal cord, and peripheral nerves, and orthopedics.

HOSPITAL ORGANIZATION.

The commanding officer of the hospital arrived for duty about March 30, 1918. The quartermaster and the medical property officer reported at about the same date. The organization of the surgical service was undertaken by the chief of service on June 5, 1918. During the month of June members of the medical and surgical staffs reported, the nurses were assigned to duty, the wards were put into readiness, and the hospital was practically complete and prepared for the reception of patients at the end of the month. The first patients were admitted on July 5, 1918. The first overseas patients were received on August 1, 1918.

Occupation of hospital buildings.—The occupation of any part of the hospital first occurred when the commanding officer took one of the wards temporarily as an office. The offices of the quartermaster and the medical property officer were also established in this ward, pending the construction of the quarter master buildings.

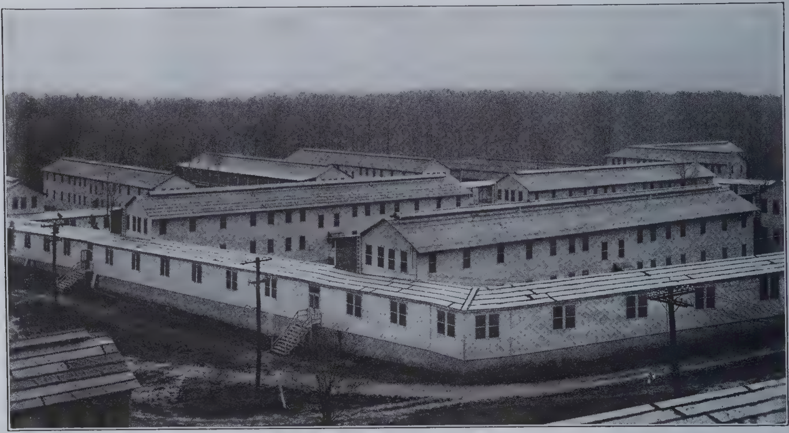

FIG. 118.—Convalescent wards, General Hospital No. 3

The buildings of the hospital were practically complete and ready for occupancy July 1, 1918. By September 15, 1918, the day the acute surgical wards became filled, it was necessary to open the first two wards of the convalescent section.

The buildings were of the pavilion type of construction, according to the usual military hospital standard. Those pertaining to the immediate care of the patients, and for their use, were connected by inclosed corridors. The general arrangement of the buildings is shown in Figure 116.

Hospital water supply.—The water supply for the hospital was furnished from an 8-inch main by the Middlesex Water Co.; it was very satisfactory.

Sewage.—Ultimate disposal of the hospital sewage was by means of a septic tank and sprinkler filters; each building was fitted with modern plumbing fixtures adequate to its needs.

Disposal of wastes.—Kitchen wastes and other forms of garbage were at first disposed of by means of an incinerator, or were fed to hospital hogs. Later, the hospital garbage was sold, on contract, to a near-by stock farm.

Lavatories and baths.—These were located in each building in adequate numbers.

Heating.—A central heating plant, consisting of eight 150-horsepower Kavanel boilers and operating by the return vacuum system, furnished steam heat with pressure to all the buildings and at the same time supplied them with hot water.

Hospital lighting.—The buildings were completely wired for electricity, which was furnished by a local service company.

Hospital kitchen and mess.—There were five messes and kitchens. As originally constructed the general mess was much too limited in capacity, as was also the mess for the detachment men. These were enlarged to meet the demand. The kitchen of the general mess was especially a very complete unit, being equipped with steam cookers, vegetable peelers, dishwashers, refrigerating boxes, ice machines, and bakery. The officers' mess was very adequate, as was also that of the nurses.

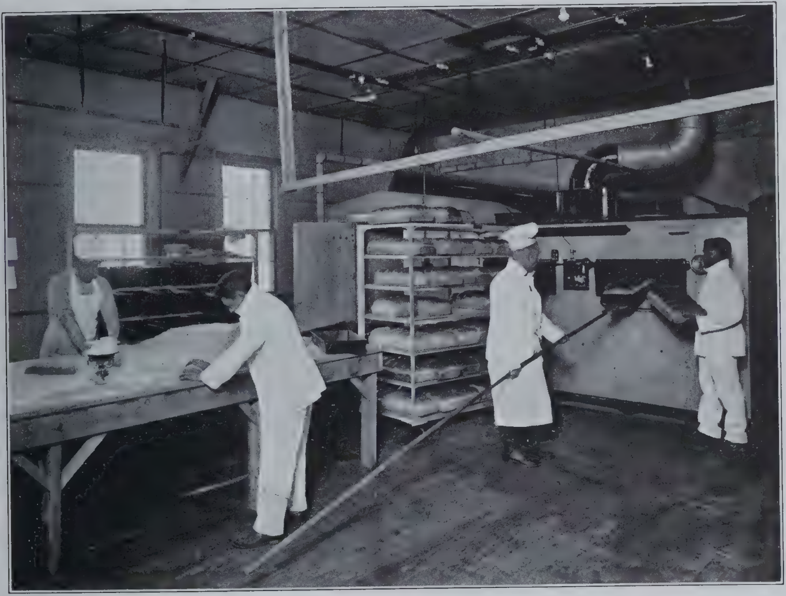

FIG. 119.—Bakery, General Hospital No. 3.

Hospital laundry.—This plant was very successfully operated. It handled all the hospital linen and the clothing of the enlisted men, operating in two shifts of eight hours each, with men on duty at the hospital and a few female laundresses for ironing purposes.

Quarters.—The original officers' quarters were destroyed by fire on October 10, 1918. During the months following, in the interval of rebuilding, it was necessary for the officers to occupy temporary quarters in one of the convalescent ward buildings. New quarters, consisting of dormitory and a mess in near-by rooms, were built in March and proved satisfactory and adequate in every particular. The nurses' quarters were adequate, but the barracks for the enlisted men, five in number, were not adequate, two additional buildings being in almost constant service.

Hospital chapel.—The first building used as the chapel at the hospital was opened in the fall of 1918. This was used not only for religious services but also for amusement purposes by the Young Men's Christian Association before the completion of its building in December, 1918. A separate chapel was constructed in the spring of 1919, and was open for religious services early in May, 1919.

Hospital storehouse.—There were three quartermaster storehouses, including one medical supply depot.

PROFESSIONAL SERVICES.

Because of the fact that General Hospital No. 3 was designated principally for the treatment of surgical cases the medical service of the hospital was correspondingly small and was limited to cases incident to the hospital personnel and the medical complications of the surgical patients.

SURGICAL SERVICE.

The type of cases received at this hospital was largely that involving injury of the extremities, either previous amputations or injuries from shrapnel or high explosives. An exceptionally large number of cases of gunshot wounds showed extensive loss of bone which had been either shot away or removed at an early operation. A great percentage of these required one or more preliminary operations for the removal of dead bone, foreign material, etc., before the final plastic work could be undertaken. Of the cases of amputations treated, all, with very rare exceptions, received the primary operations before admission to this hospital; usually these had occurred in France. These cases were assigned to General Hospital No. 3 for further care, incidental to the ultimate application of artificial limbs. Many pathological and traumatic conditions of the spine were also treated. Cases of nerve injury, including many with loss of substance, were common. The various types of cases treated in the different departments of the surgical service are briefly considered under their respective heads.

The history of the surgical service of the hospital dates from June 5, 1918, at which time the chief of service, with an original staff of three assistants, undertook its organization, with the purpose of formulating an efficient working plan for the administration of a large reconstruction service handling great numbers of wounded men. During the following month additional officers reported for duty and the nurses likewise were assigned. Organization of the various departments was begun; the operating pavilion was equipped; the pathological and X-ray departments were opened by the respective chiefs; and the 11 acute surgical wards just nearing completion, to which the officers who had reported were assigned, were put into readiness. By June 30, 1918, the hospital was practically completed and prepared for the reception of patients.

The first patients from overseas, 17 in number, arrived on August 1, 1918. In September the number of patients began to increase rapidly and by December, 1918, the 11 surgical wards for acute cases being entirely filled, the opening of wards in the convalescent section was necessitated. The number of patients on the hospital records continued to grow until February, 1919, when active enrollment reached its height, approximately 2,000 patients being recorded at that time as having received treatment at the hospital. At the height of the work the surgical staff included 50 officers. The personnel of the operating pavilion regularly consisted of eight nurses and eight enlisted men.

During the early fall months in 1918 the operative work at the hospital consisted principally in cleaning out sinuses, removing dead bone, fragments of shell, or even bits of clothing and wood. The surgical cases were for the most part those recently wounded and showing bad infections. It was not until December, 1918, that bone-graft operations for restoration of lost substance could be undertaken in any number. The great amount of plastic work at this hospital subsequent to that time was done for a wide variety of conditions. A large percentage of the cases of this group were treated by the bone graft for loss of bone resulting from gunshot wounds or from osteomyelitis, a total of 149 cases having been operated upon. Cases of special interest included three instances of synthetic transplantation of tissue for the formation of new digits, whereby the usefulness of the disabled member was restored to a great extent. In the large group of shoulder cases, restoration of substance and shoulder-joint motion and function were accomplished. Extensive loss of substance in the long bones, such as the humerus, ulna, and tibia, was replaced by the bone graft, with the resultant return of function. In another group the bone graft was used to relieve affections of the spine, in such conditions as compression fractures of the vertebral bodies, and Pott's disease.

Artificial Limb Service.

The artificial limb service at General Hospital No. 3 was organized on January 1, 1919. Although primarily not so designated, in the fall of 1918, the Surgeon General decided to include cases of amputation among the patients treated at this hospital. At the time of the organization of the special amputation subservice there were in the hospital nearly 400 such cases which had been sent for the application of an artificial limb and for preliminary treatment incident to its proper fitting.

February 10, 1919, General Hospital No. 3 was classified as one of the two amputation centers of the East. The number of such patients admitted increased very rapidly, reaching its height in April, 1919, when approximately 750 patients with amputations were enrolled. This number remained practically unchanged during May. During the summer many discharges were made and the number of patients admitted was constantly decreased until the latter part of September, when the amputations in hospital numbered only about 200.

With the exception of five primary operations performed at the hospital, all the operative work in the amputation subservice was on stumps. These operations consisted of re-amputations to secure a satisfactory stump for the application of the artificial limb, occasional sequestrectomies when necessary, and the final plastic work. At the height of the work in April, 1919, the number of operations performed on stumps totaled in that month 138. A very large percentage of the cases requiring re-amputation were those preceded by the guillotine operation in France; in these instances further operative treatment was necessary before a successful fitting of the artificial appliance.

Most of the patients arrived with open stump wounds, badly infected, which, after being sterilized by the Carrel-Dakin method, required re-amputation or plastic operation on the stump. In many instances patients were received with the stump healed and large scars present, in which excision of scar and plastic closure were necessary.

As a form of postoperative treatment after the healing of the stump, the patient was sent to the department of physiotherapy for massage and stump calisthenics, in preparation for the temporary artificial limb which was applied at this hospital. Having been fitted with this, he was returned to the gymnasium to be given walking exercises. The final disposition of patients was either by transfer to a convalescent hospital nearer their homes, or by discharge through the hospital discharge board. The total number of cases of amputation admitted to the hospital is briefly summarized in the following table. Of the 16 double amputations recorded there was only one instance of loss of both arms; there were several cases in which arm and leg on the same side had been amputated; in one case both legs and one arm were lost.

Number of cases of amputation admitted to United States General Hospital No. 3.

Legs	1,089
Arms	246
Total	1,335
Double amputations	16

THE ORTHOPEDIC WORKSHOP.

Coincident with the growth of the artificial-limb service, a part of the subservice of amputations, the demands upon the orthopedic workshop at the hospital increased. This department, which was organized in November, 1918, was opened primarily for the manufacture and fitting of splints and braces. With a subsequent increase in the working force and equipment, the fitting of the artificial limb was also undertaken. In the early part of March, 1918, the orthopedic workshop was still further enlarged to make possible the manufacture of arms as well. At its height this service employed a total working force of 28 men, including the officer in charge and his assistant. Over 1,000 patients, on an average, were fitted each month; this number included cases of application of braces and splints, as well as of artificial arms and legs, and their adjustment. In the 11 months of its history, from November, 1918, to September, 1919, inclusive, the department handled over 11,000 patients.

Work done by the orthopedic workshop.

Appliance:	Number fitted.
Legs	843
Arms	75
Splints and braces	2,745
Total number of appliances	3,663

ANESTHESIA.

In the large amount of operative work done at this hospital it was found that nitrous oxide-oxygen and minimum ether was the anesthetic of choice. The rapid induction period and quick recovery (from 5 to 10 minutes), with very little unconscious nausea and vomiting, attending the use of this anesthetic, permitted dispensing with at least two anesthetists. The immediate postoperative care, so necessary following ether narcosis, was not required.

The operations varied in length from periods of less than five minutes to three and four hours, and ranged from brief sequestrectomies and forcible manipulations, to intricate plastic work involving bone and nerve repair. In operative work of less than five minutes' duration, gas-oxygen was generally used. In operations lasting five minutes or longer, some in fact, extending over a period of four and one-half hours, gas-oxygen and minimum ether were administered with constantly good results. Indeed, in many cases gas-oxygen alone was found sufficient to maintain the proper degree of surgical narcosis. The small amount of ether used, however, in this type of anesthetic, did not seem to retard recovery.

The work with ether anesthesia was done largely by the Mayo method. Ethyl chloride-ether sequence was used when nitrous oxide-oxygen was not available. Ethyl chloride was administered to patients in the wards when surgical dressings were found to be very painful. The Ohio Monovalve, Connel, and Heidbruch apparatus were used. The Ohio Monovalve was found the most satisfactory because it was stable and did not get out of adjustment; in other words, it was always in good order.

With few exceptions all the operative work at the hospital was handled by two anesthetists.

Surgery of the Head.

For this branch of surgery there was no separate building at the hospital.

The eye service and the ear, nose, and throat departments, at several times in the history of the hospital, were combined under the supervision of one chief. The eye service was inaugurated May 10, 1918. The work consisted of the examination of patients from the detachment and the nursing staff, the first overseas patients being treated August 19, 1918. With the influx of large numbers of overseas patients, and the consequent heavy demands of the surgical wards upon staff members, it was found possible to again combine the eye and otolaryngological departments.

The eye and the ear, nose, and throat departments at no time had a sufficient number of patients warranting the setting aside of a ward for their special care. In the otolaryngological service, tonsillectomies represented the bulk of operations performed. There were a few cases of ethmoiditis and mastoiditis, necessitating operation. In the ophthalmological service refractive errors formed between 70 and 80 per cent of the cases received.

The Neurosurgical Service.

This department was organized the last week in January, 1919. The neurosurgical cases which were not complicated with infected bone or soft-part lesions, were concentrated in two wards, ward 14 being used for preoperative, postoperative, and bed patients, and ward 28 being set aside as a convalescent ward. The offices of the neurosurgical service included the administrative department and the examining rooms, both of which were located in ward 28.

Subsequent to the organization of this service, 240 peripheral nerve injuries, 10 head injuries, and 8 spinal injuries were examined and treated. All cases having a definite involvement of peripheral nerves were completely examined in regard to motor and sensory function, and complete records of the findings, with subsequent changes, as seen in the process of degeneration and regeneration, were made and kept on file. After studies of these cases, if spontaneous regenerative changes were not observed, they were recorded as operative cases.

The department operated upon 80 cases requiring operation of a neurosurgical nature as follows: Amputation neuromas, 16; median nerve, 5; ulnar nerve, 8; musculospiral nerve, 12; posterior interosseus nerve, 2; brachial plexus, 6; lesions of two or more nerves in the upper extremity, 6; sciatic nerve, 6; external popliteal nerve, 10; facial anastomosis, with hypoglossal nerve, 2; tendon transplant, 2; spine, 1; brain, 3; and aneurysm (arteriovenous), 1. Sixteen operations were performed for the removal of painful neuromas for the amputation department. Of the 240 cases of peripheral nerve injuries examined 57 were operated upon.

Brain Surgery.

Ten head cases, referring primarily to skull and brain, were treated in this service. Two were operated upon. In one case a decompression operation was performed upon an officer on duty at the hospital, who had sustained a very severe fracture of the skull. The second operation was for the removal of a foreign body from the brain, the result of a battle casualty. Only one spine case was operated upon: the removal of a foreign body from the body of the fourth lumbar vertebra. In no case of spinal injury was it considered advisable to perform any operation upon the spinal cord.

The Dental Service.

The dental clinic was organized July 24, 1918. In November, 1918, the staff was increased from one to three dental surgeons, and during the major portion of the subsequent time the dental service consisted of that number of operators and a survey officer, with an enlisted personnel of three men, an assistant for each operator.

Over 1,340 patients were treated in this service, with a total of more than 26,000 sittings. In addition to the regular routine work, many interesting plastic cases were handled, 11 following gunshot injuries. The latter included two cases involving loss of substance in the hard part and one instance of loss of bone in the right mandible, all of them being successfully treated in cooperation with the chief of the surgical service.

The Genitourinary Service.

The number of patients treated in this department was very small, the total under treatment at no time exceeding six or seven. A portion of one of the convalescent wards was set aside for the care of such patients.

The X-ray Department.

The roentgenological laboratory was established coincident with the organization of the surgical service, and was located in the operating pavilion at the special request of the chief of the surgical service, who personally drew up the original plans to include both services, for greater cooperation and efficiency in handling the large number of cases. The plan was worked out successfully; owing to its proximity to the operating rooms, the X-ray service frequently rendered valuable assistance during the progress of an operation, in throwing light on unforeseen conditions as they arose.

The laboratory, as planned, contained a complete United States Army roentgenological equipment, capable of every variety of X-ray examination, including fluoroscopy.

The personnel for the main part comprised two officers and four enlisted men.

Examinations totaling about 8,000 were made on about 6,000 patients. The examinations and the making of plates constituted the bulk of the work, with a small amount of film work and some fluoroscopy. By far the greater part of the examinations were for bone pathology. Just as bone work was the predominant feature of the hospital service, so it was in the X-ray laboratory. The patients were closely studied both before and after operation, and the growth of new bone following the surgical procedure was carefully studied.

THE LABORATORY.

The laboratory building, adjoining the operating pavilion, included, besides the usual pathological and bacteriological sections, a well-equipped animal research annex which had been added at the request of the chief of the surgical service. Coincident with the clinical bone work, experimentations were made possible by such resources in equipment and technical assistance, and were carried on in bone growth and allied subjects, under the supervision of the chief of the surgical service.

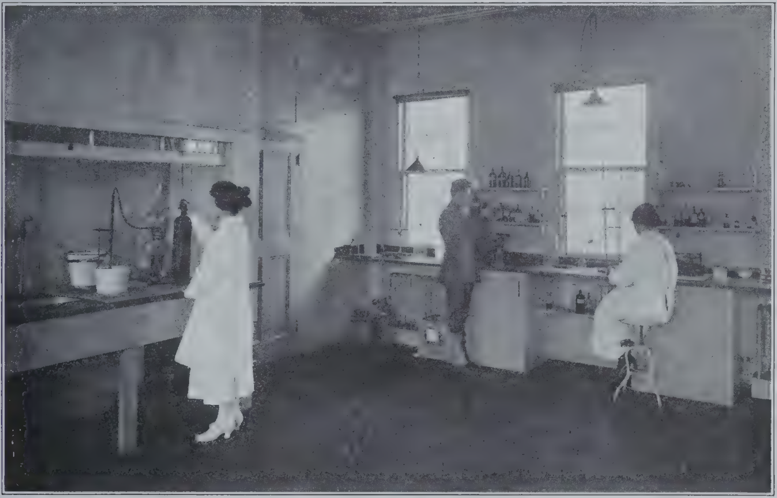

FIG. 120.—Chemical laboratory, General Hospital No. 3.

The laboratory was organized May 25, 1918. The staff included the chief of service, two officer assistants, and nine technicians.

The work accomplished in the pathological and bacteriological departments comprised the usual blood tests, urine analyses, Wassermann reactions, etc., as well as analyses of milk and water, the preparation of vaccines, and inoculations. Subsequent to August, 1918, 1,481 wound cultures were taken and bacteriological counts of wounds numbered 9,896; 10,260 liters of Carrel-Dakin solution were prepared; 114 histological sections were preserved; and 80 sections were completed and examined.

Autopsies.

Facilities for conducting post-mortem examinations were excellent; the morgue consisted of an autopsy room, containing an autopsy table, with drain pipe, and two sinks.

HOSPITAL RECREATION.

Besides the amusements and recreation provided for the various groups of the hospital personnel and patients in the houses of the Red Cross, the Young Men's Christian Association, and the Knights of Columbus, a certain amount of welfare work was done by several organizations located without the hospital grounds. The Mercy Committee of New Jersey conducted a small canteen for the hospital personnel, the patients, and their guests; representatives of the National League for Women's Service were very active in furnishing recreation and entertainment for patients and enlisted men at a canteen in the vicinity, to and from which guests were regularly conveyed by motor; and a local branch of the Motor Corps of America. under the supervision of the Red Cross, was active in serving the patients.

Outdoor sports on the athletic field proved one of the most popular and valuable features of the hospital social life. This field, made possible through funds provided by the Mercy Committee, was opened in May, 1918, and thereafter it was in almost constant use. Numerous field meets were also held in which opportunity to participate was afforded patients and personnel.

Besides the hospital ball team, interest was shown in other sports, particularly in boxing matches. Tennis and some golf were played. Clubs were formed to stimulate dramatics among the enlisted men and patients. There were several musical organizations, including a patients' orchestra and an officers' orchestra. Numerous organizations of a purely social nature included the officers' club, the nurses' club, and the club for noncommissioned officers.

Great interest in the welfare of the patients and enlisted personnel assigned to duty were shown by many societies in near-by towns, as well as by individuals. Special entertainments were permitted at the post, from time to time, and invitations were frequently extended to various hospital groups to participate in social affairs outside of the hospital.

Statistical data, United States Army General Hospital No. 3, Colonia, N. J., from May, 1918, to October 15, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
May	......	2	......	8	10	.....	.....	.....	.....	.....	.....	2	8	......	......	2	......
June	......	10	......	......	10	6	.....	.....	.....	.....	.....	.....	1	1	2	35	57
July	3	6	2	......	11	9	.....	.....	.....	.....	.....	.....	.....	2	......	26	19
August	2	33	99	2	136	19	.....	.....	.....	.....	.....	.....	14	103	......	1,429	49
September	103	51	418	6	578	37	.....	.....	.....	.....	.....	.....	.....	541	......	8,236	......
October	541	89	460	2	1,092	101	5	.....	.....	.....	.....	4	.....	982	......	24,130	......
November	982	26	664	15	1,687	49	.....	.....	.....	.....	.....	8	6	1,624	......	39,790	......
December	1,624	55	730	11	2,420	201	4	20	.....	.....	.....	244	7	1,944	......	53,227	......
1919.																	
January	1,944	78	199	8	2,229	614	2	14	.....	.....	.....	88	63	1,448	......	51,811	......
February	1,448	62	250	6	1,766	237	3	16	.....	2	.....	79	76	1,353	......	36,907	......
March	1,353	51	512	7	1,923	176	4	11	.....	20	.....	137	71	1,504	......	44,865	2
April	1,504	38	299	10	1,851	171	1	9	7	28	.....	194	49	1,392	......	43,174	......
May	1,392	63	268	28	1,751	262	1	10	.....	12	.....	108	30	1,328	......	42,247	......
June	1,328	33	272	11	1,644	179	2	9	.....	14	.....	71	14	1,355	......	38,112	......
July	1,355	26	84	8	1,473	107	.....	15	.....	44	.....	45	42	1,220	......	39,020	......
August	1,220	43	55	7	1,325	41	.....	110	.....	34	.....	18	63	1,059	......	32,384	......
September	1,059	40	20	6	1,125	42	1	94	.....	28	.....	13	39	908	......	29,340	......
October	908	7	1	......	916	24	.....	237	8	22	.....	613	12	......	......	6,455	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					**1919.**				
August	4	4	....	8	January	10	151	....	163
September	0	0	....	0	February	12	155	....	167
October	24	69	....	93	March	7	161	....	167
November	12	151	....	163	April	50	216	....	226
December	12	155	....	167	May	109	244	....	256
					June	166	247	....	254
					July	152	268	....	318
					August	12	251	....	360
					September	12	226	....	392
					October	6	198	....	350

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
May	8	1	1	10	103	20	123	....
June	14	1	2	17	122	20	142	15
July	16	2	2	20	346	32	378	16
August	15	5	2	22	360	32	392	33
September	21	5	2	28	368	32	400	39
October	55	8	2	65	372	31	403	47
November	52	8	2	62	375	100	475	91
December	63	13	5	81	624	106	730	85
1919.								
January	63	12	8	83	616	136	752	97
February	67	11	9	87	610	179	789	94
March	63	13	7	83	621	173	794	101
April	69	11	10	90	602	159	761	112
May	55	13	10	78	599	103	702	118
June	50	14	13	77	591	97	688	116
July	52	14	14	80	593	8	601	125
August	51	14	11	76	720	9	729	123
September	45	13	10	68	622	25	647	112
October	2	1	1	4	....	....	....	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

CHAPTER XIX.

POST HOSPITALS.

The post hospital, as its name implies, is a fixed institution provided, primarily, for the peace-time care and treatment of the military sick occurring in the garrison of which it forms an integral part; in consequence it is controlled by the post commander.

The part played by the post hospitals in the care of the sick and wounded during the World War was, perforce, relatively small. During the earlier days of the war period, when troops were being recruited to augment the strength of the Regular Army, and prior to the provision of any of the large temporary war-time hospitals, use had to be made of those military hospitals existent at the time. This use necessitated increasing their capacities by the provision of additional buildings of temporary construction, and the personnel for their operation; but the management of them was essentially the same as during peace times; that is to say, the senior medical officer on duty at the post at which the post hospital was located discharged his duties in a dual capacity; he was post surgeon and he was also in direct charge of the hospital. The number of assistants which the post surgeon had depended entirely on the magnitude of the general activities of the post; and with few exceptions, there was little or no effort made to organize along the lines made requisite in the essential war hospitals. The exceptions to this statement include the post hospitals that were operated at the large recruit depots and at such other places as Fort Jay, Fort Leavenworth, Fort Monroe, and Vancouver Barracks. The subsequent enlargement of many post hospitals was effected when they were metamorphosed, in conjunction with the remainder of the buildings at a post, into general hospitals, as will be seen in connection with the separate histories of the general hospitals.

POST HOSPITAL, FORT McDOWELL, ANGEL ISLAND, CALIF.[a]

Angel Island is located in San Francisco Bay and is considered a part of Marin County. The nearest large city is San Francisco, which lies, at its nearest point—Fort Mason—about 3½ miles from the southern shore of this island. Alcatraz Island, 12 acres in area, lies between these two points about 2 miles distant from this island. The Golden Gate entrance to San Francisco Bay is 6 miles to the southeast. To the west is a narrow strip of water known as Racoon Straits, being about three-fourths mile wide at the narrowest place. To the east the mainland is separated from this island by a stretch of about 7 miles of San Francisco Bay. Angel Island is about 1½ miles long and 1¼ miles wide. With the exception of small beaches on each of the four sides of the island, the shore line is bold and precipitous. A narrow dirt road encircles the island following very closely on the 160-foot contour above sea level, and was constructed by Infantry troops at long intervals in the past. On the north, the shore line is from 200 feet to 400 feet from this road; on the south, 400 feet to 1,000 feet; on the west, 200 feet to 1,200 feet; and on the east, 400 feet to 600 feet. The surface of the island is very broken. In a general way narrow, steep ridges rise from the four corners of the island and meet in a common center 776 feet above the sea. This high point is about 3,600 feet from the north, east, and west shore and 2,000 feet from the south shore. The ridges and deep ravines are on each of the four sides; but there are, especially on the west and south, wider, more gentle slopes leading to short strips of sandy beach.

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[a] The statements of fact appearing herein are based on the "History, Post Hospital, Fort McDowell, Calif.," by Col. Powell C. Fauntleroy, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

Geologically, Angel Island is a tertiary, sedimentary formation uplifted and broken through by older series of serpentine. The basis of the island is an argillaceous sandstone interrupted across the western half by upturned strata of serpentine. There are also outcroppings of talc and small veins of flint. Overlying the sandstone are irregular and broken beds of brown, red, and blue shale, which are in turn overlaid with sand and black argillaceous loam. This loam is deep and rich, especially in the lower levels and ravines, and is capable, under irrigation, of great productiveness. The ravines and ridges, especially on the north and south, are densely covered with an underbrush of vines and briar bushes, poison oak, sage, greasewood, laurel, and elder. The principal trees are evergreens, scrub white oak, bay tree, pine, cedar, and eucalyptus; the latter three having been planted on the south and east side in 1905. On the west side there are a few cottonwoods, Normandy poplars, large cedars, and pines. The absence of fruit trees and grapes is particularly noticeable. There is a growth of plants and flowers, especially in and around the occupied portion of the island. The director of the Golden Gate Park has supplied this island with many beautiful plants, bushes, and trees, which have reclaimed and made beautiful what would otherwise be unsightly levels and slopes. The dust does not lie well on the roads and bare places during the dry season, and during the wet season the mud is of a gumbo stickiness, and easily carried on shoes. The seasons are divided into wet and dry. The former embraces the months from October to May, inclusive. The temperature of the wet season varies from 32° F. to 70° F. There is an annual rainfall of about 18 inches. From March to September, inclusive, the trade winds blow almost continuously night and day and are always very strong. During the other months there is always a stiff breeze. Cold fogs come up nearly every afternoon and are especially heavy on the south and east sides. During the wet season all plant life quickly becomes green, but by July the grass is brown and dry and the foliage becomes covered with dust, giving the island a parched appearance, relieved only by patches of evergreen trees. The continuous and heavy winds make it very difficult for flies and mosquitoes to live except in very sheltered places.

The United States Government first took possession of the island on September 12, 1863. On this date Lieut. John L. Tierson, in command of Company B, Third United States Artillery, landed on the west side of the island and established a camp which he called Camp Reynolds, on the site of what is now known as the west garrison, Fort McDowell. This old post was renamed Fort McDowell by General Orders No. 43, A. G. O., 1900.

The east garrison, Fort McDowell, was established by the erection of concrete barracks and quarters on the opposite side of the island between the years of 1905 and 1910. From the beginning, Angel Island has been the recruit depot and casual camp for the United States forces west of the Rocky Mountains. Prior to the completion of the transcontinental railroads recruits were sent by way of the Isthmus of Panama from the East and distributed to the posts in the Western Department. Since 1898 all casuals and recruits destined for garrisons in Hawaii, the Philippine Islands, and China have been sent here prior to embarkation. The casuals from these oversea garrisons are sent here on their return to the United States for discharge or assignment to other posts.

From 1909 the island had been purely a recruit depot and casual camp, the garrison being only depot recruit companies. A frame 150-bed contagious-disease hospital was built in 1918 on the west side; and the old hospital, 30 beds, on the west side was repaired. All the sick were cared for in these two hospitals together with one of the old frame barracks on the west side. The concrete, Medical Department, buildings on the east side were constructed at about the same time as the other similar buildings on this side of the islands. The concrete hospital, however, was never completed as a hospital, but, by order of the Secretary of War, was left uncompleted and converted into a barracks for casuals and depot company troops. By order of the Secretary of War, on April 20, 1918, this hospital building was formally turned back to the Medical Department for occupancy and, together with the concrete annex hospital building, was used for recruiting purposes and for the care of personnel so engaged, as well as Medical Department recruits and casuals.

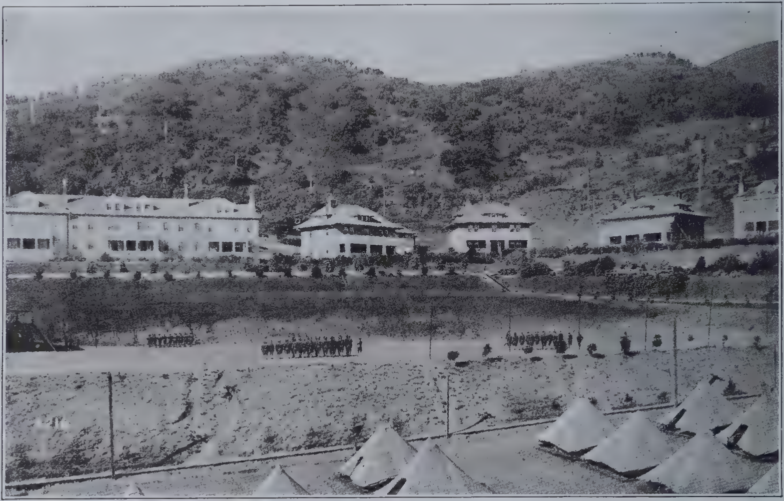

FIG. 121.—East garrison, Fort McDowell, Calif.

In 1918 a large frame mess and dormitory building was constructed by contract on the west side. Prior to the erection of this building the proper housing and care of the Medical Department personnel had been very difficult and unsettled. At the same time a milk house, containing apparatus for cooling milk and the disinfection of milk cans and bottles, and an automobile garage were constructed by Medical Department personnel on the west side. All these buildings were connected by an intercommunicating telephone system as well as with the general telephone system of the island.

The old post brick hospital, in the west garrison, was of the standard type as provided by plans from the Surgeon General's Office. It was heated by means of a hot-water system of its own. By means of labor furnished by the Medical Department personnel, this old building was repaired, recalcimined, and painted. The old system of lighting this hospital by means of an acetylene plant was supplanted in 1918 by an electric lighting system. The new frame 150-bed contagious-disease hospital had a separate steam-heating plant. The wards were heated by means of direct radiation from radiators. The ventilation was by means of perflation through the windows and doors and lattice ridge openings. This hospital consisted of three large buildings, with screened verandas on one side of each building, utilized for the care of appropriate bed cases. There were small isolation wards for diphtheria, scarlet fever, measles, mumps, and meningitis; and a receiving and distributing ward in connection with which provision was made for the administration of prophylactic treatments. This hospital also had its own dispensary, kitchen, and dining rooms for nurses and patients. The new frame dormitory and mess building, for the accommodation of the personnel of the Medical Department, lay just north of the brick hospital.

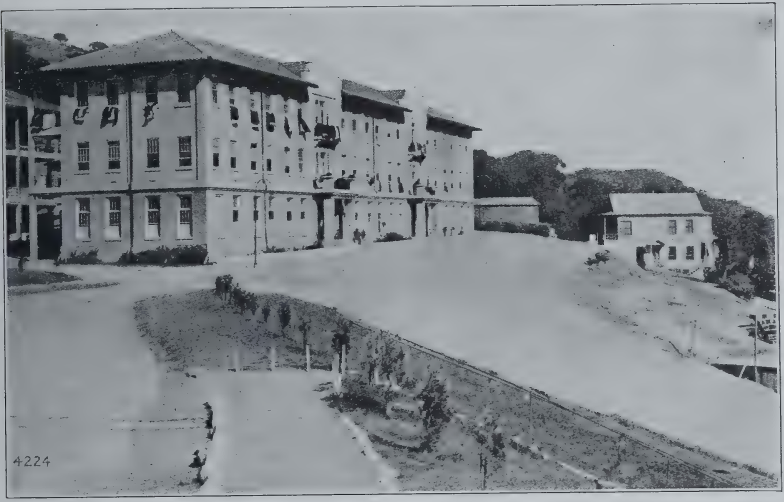

FIG. 122.—Post Hospital, Fort McDowell, Calif.

There was only one main road, a narrow, dirt road which encircled the island. It was so steep and winding on the south side that practically all the travel from the east and west garrisons was over that portion of the road around the north side of the island. It was necessary during the dry season to sprinkle the roads through the garrisons in order to keep the dust down. There are no streams, fords, or bridges on the island. There were wharves upon which vessels discharged cargoes and from which passengers were taken on and off the tugs and vessels, at the east and west garrisons.

The water supply of this island was partially from local springs and bored wells. The amount of water thus obtained, however, was less than one-third of that used. The other sources of water supply were the Spring Valley Water Co., San Francisco, and the Presidio system of water supply. Water thus obtained was brought to the island in a combined water and freight boat, and also a water barge exclusively used for this purpose, and was pumped up to wooden water tanks on the high levels at the east and west garrisons by pumps installed on the respective docks.

There were two deep, driven wells on the west side, which supplied a portion of the water used; but the greater part of the water used was brought in barges from Sausalito, the source of which was the Marin County Water Supply Co. The plant was located near San Rafael. Samples from all of these sources were repeatedly analyzed, and while at times they showed colon bacilli, they were pronounced by the laboratories as good and potable.

The disposal of sewage was by means of modern water-closets and urinals connected with concrete and cast-iron sewers, which emptied into the bay near the east and west side docks.

Statistical data United States Army Post Hospital, Fort McDowell, Calif., from April, 1917, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
April	59	402	......	......	461	194	5	......	......	......	......	103	4	145	10	2,295	220
May	155	366	......	......	521	363	6	......	......	......	......	74	2	67	9	4,014	255
June	76	228	......	......	304	196	4	......	......	......	......	58	2	37	7	2,093	289
July	44	206	......	......	250	154	1	......	......	......	......	43	2	45	5	1,463	302
August	50	165	......	......	215	136	......	......	......	......	......	49	2	23	5	1,045	205
September	28	55	......	......	83	50	......	......	......	......	......	29	......	3	1	362	74
October	4	77	......	......	81	44	......	3	......	......	......	19	......	15	......	434	......
November	15	125	......	......	140	91	1	......	......	......	......	25	......	23	......	671	4
December	23	124	......	......	147	83	1	......	......	......	......	31	......	27	5	620	19
1918.																	
January	32	219	......	......	251	157	2	4	......	......	......	32	......	50	6	1,261	113
February	56	181	......	......	237	139	1	......	......	......	......	17	......	77	3	1,219	69
March	80	278	......	......	358	181	3	......	......	......	......	43	10	114	7	2,678	163
April	121	213	......	......	334	241	3	......	......	......	......	45	......	41	4	2,354	140
May	45	417	......	......	462	233	......	......	......	......	......	50	2	175	2	5,049	110
June	177	386	......	......	563	419	2	......	......	......	......	49	1	92	......	3,030	60
July	92	409	......	......	501	275	......	......	......	......	......	19	20	184	3	3,857	84
August	187	236	......	......	423	299	1	......	......	......	......	22	1	99	1	3,581	54
September	100	94	1	1	196	109	......	......	......	......	......	24	......	58	5	1,508	106
October	63	565	......	......	628	425	......	......	......	......	......	31	3	157	12	6,688	287
November	169	120	......	......	289	211	2	......	......	......	......	8	2	64	2	3,090	73
December	66	79	......	......	145	106	......	......	......	......	......	7	3	28	1	1,225	47
1919.																	
January	29	106	......	......	135	90	1	1	......	......	......	9	9	24	1	766	103
February	25	65	......	......	90	62	......	......	......	......	......	2	2	21	3	633	93
March	24	71	......	......	95	58	......	......	......	......	......	3	2	26	6	581	209
April	32	99	......	......	131	77	......	......	......	......	......	15	5	30	4	738	81
May	34	85	......	......	119	72	2	......	......	......	......	7	6	32	......	824	48
June	32	79	......	......	111	69	......	......	......	......	......	2	9	30	1	865	6
July	31	97	......	......	128	85	......	1	......	......	......	7	6	27	2	950	9
August	29	125	......	......	154	102	......	......	......	......	......	5	7	35	5	909	109
September	40	209	......	......	249	158	......	2	2	......	......	5	24	56	2	1,563	106
October	58	233	......	......	291	198	......	5	......	......	......	7	9	72	......	2,192	43
November	72	193	......	......	265	161	4	7	1	......	......	6	12	73	1	2,360	23
December	74	196	......	......	270	165	1	2	1	......	......	11	20	69	1	2,127	45

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[a] Compiled from monthly returns, and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data United States Army Post Hospital, Fort McDowell, Calif., from April, 1917, to December, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
April	7	....	....	7	40	....	40	....
May	10	....	....	10	41	....	41	....
June	12	....	....	12	109	....	109	4
July	13	....	....	13	115	....	115	4
August	13	....	....	13	95	....	95	5
September	14	....	....	14	100	....	100	5
October	12	....	....	12	96	....	96	5
November	12	....	....	12	99	....	99	5
December	11	....	....	11	101	....	101	5
1918.								
January	10	....	....	10	106	....	106	5
February	11	....	....	11	115	....	115	11
March	11	....	....	11	119	....	119	12
April	14	....	....	14	144	....	144	16
May	16	....	....	16	156	....	156	16
June	12	....	....	12	156	....	156	16
July	14	....	....	14	170	....	170	15
August	14	....	....	14	174	....	174	19
September	15	....	....	15	181	....	181	18
October	16	....	....	16	183	....	183	18
November	15	....	....	15	182	....	182	13
December	12	....	....	12	110	....	110	13
1919.								
January	8	....	....	8	96	....	96	6
February	9	....	....	9	95	....	95	6
March	8	....	....	8	83	....	83	7
April	8	....	....	8	92	....	92	4
May	8	....	....	8	93	....	93	4
June	8	....	....	8	78	....	78	4
July	9	....	....	9	68	....	68	4
August	11	....	....	11	68	....	68	4
September	8	....	....	8	66	....	66	4
October	7	1	....	8	64	....	64	5
November	10	1	....	11	66	....	66	4
December	9	1	....	10	68	....	68	5

TABLE No. 20.—*Consolidated numerical reports of sick and wounded, and strength of personnel at United States Army Post Hospitals.*[a]

Hospital.	Period operated.		Admissions.			Dispositions.			Maximum monthly number of patients treated.	Minimum monthly number of patients treated.	Average monthly number of personnel on duty.							
											Officers.			Enlisted.				
	From—	To—	From command.	Otherwise.	Total.	Returned to duty.	Died.	Otherwise disposed of.			Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Medical Department.	Miscellaneous (Q. M. C., etc.).	Nurses.	Aides and workers.	Other civilian employees.
U. S. Proving Ground, Aberdeen, Md.	December, 1917	December, 1919	3,763	1,307	5,070	3,300	111	1,659	1,016	64	8	1		60		7		
Fort Adams, R. I.	April, 1917	do.	2,339	1,198	3,537	2,426	22	1,089	319	8	5			20		2		
Alcatraz, Calif.	do.	do.	2,202	656	2,858	1,974	1	883	168	54	4			15				
Fort Ethan Allen, Vt.	do.	do.	5,577	1,944	7,521	5,641	54	1,826	834	4	10			41		6		
Anchorage, Alaska	October, 1917	do.	118	28	146	112	1	33	41	1	1			2				
Fort Andrews, Mass.	April, 1917	do.	1,017	849	1,866	1,171	6	689	143	3	4			20		6		
Fort Apache, Ariz.	do.	do.	259	83	342	243	4	95	21	4	1			6				
Augusta, Ga.	do.	do.	144	41	185	137	1	47	19	1	1			3				
Fort Baker, Calif.	do.	do.	811	163	974	742	3	229	106	1	2			11				
Fort Baldwin, Me.	do.	February, 1919	208	38	246	205	0	41	55	1	1			5				
Fort Banks, Mass.	do.	December, 1919	1,246	1,624	2,870	1,792	25	1,053	247	27	4			30		6		
Fort Barrancas, Fla.	do.	do.	3,473	1,270	4,743	3,384	29	1,330	738	14	5			31		7		
Fort Barry, Calif.	do.	do.	830	145	975	643	1	331	174	2	2			10				
Benicia Arsenal, Calif.	do.	do.	333	65	398	304	0	94	52	1	2			6				
Fort Brady, Mich.	do.	do.	1,484	558	2,042	1,451	33	558	347	5	2			14				
Brooklyn, N. Y.	December, 1918	May, 1919	377	991	1,368	764	21	583	328	138	17	4	1	80	3			
Fort Brown, Tex.	April, 1917	December, 1919	413	45	458	338	1	119	59	1	3			9				
Fort Canby, Wash.	August, 1917	December, 1918	532	236	768	548	0	220	142	17	2			5				
Fort Casey, Wash.	April, 1917	December, 1919	1,477	531	2,008	1,438	8	562	225	2	3			16				
Fort Caswell, N. C.	do.	do.	2,913	1,231	4,144	2,851	44	1,249	240	13	4			23		3		
Fort Clark, Tex.	do.	April, 1917	117		117	105	1	2			4			26				
Fort Columbia, Wash.	June, 1917	December, 1919	437	100	537	381	1	155	78	1	2			6				
Columbus Barracks, Ohio	April, 1917	do.	5,478	2,741	8,219	5,075	106	3,028	547	98	17			147		1		
Fort Constitution, N. H.	do.	do.	1,306	383	1,689	1,318	3	368	141	5	3			13				
Fort Crockett, Tex.	do.	do.	2,208	773	2,981	2,173	12	796	267	12	4			29				
Fort Crook, Nebr.	do.	do.	2,329	820	3,149	2,242	9	898	407	2	4			24				
Fort Dade, Fla.	do.	do.	1,197	506	1,703	1,203	6	494	267	4	2			12				
Fort Davis, Alaska	do.	August, 1919	128	43	171	120	7	44	74	1	1			6				
Fort Delaware, Del.	October, 1917	December, 1918	123	37	160	108	1	51	24	1	1			3				
Fort Douglas, Utah	April, 1917	August, 1917	1,400	28	1,428	1,230	8	22	604	8	12			64				
Do.	September, 1919	December, 1919	75	122	197	143	1	14	90	37								
Fort Dupont, Del.	April, 1917	do.	1,388	688	2,076	1,439	4	633	224	21	3			26				
Erie Proving Ground, Camp Perry, Ohio	July, 1918	do.	340	216	556	395	4	157	67	5	4			18	1	1		
Fort Flagler, Wash.	April, 1917	do.	1,590	533	2,123	1,569	5	549	273	2	3			14				
Frankford Arsenal, Pa.	do.	do.	556	241	797	529	9	259	151	1	1			6				
Front Royal, Va.	do.	do.	192	34	226	175	1	50	16	1	2			12				
Fort Funston, Calif.	December, 1917	September, 1919	35		35	19	1	15	5	1	1			4				
Fort Getty, Jamestown, R. I.	October, 1917	do.	302	77	379	279	0	100	73	1	1			7				
Fort Gibbon, Alaska	April, 1917	December, 1919	220	176	396	198	2	196	32	4	1			8				
Fort Greble, R. I.	do.	do.	894	462	1,356	969	3	384	192	2	3			13				
Fort Hamilton, N. Y.	do.	do.	2,803	1,556	4,359	3,020	53	1,286	132	419	33	5			50		3	

Fort Hancock and Sandy Hook Proving Ground, N. Y.	do	do	3,439	1,425	4,864	3,232	44	1,588	407	26	7			76		3	
Hawaii:																	
Fort Armstrong	do	do	63	51	114	27		87	34	1	1			3			
Fort DeRussy, Honolulu	do	do	231	22	253	140		113	20	1	2			4			
Department Hospital, Honolulu	do	do	414	11,865	12,279	5,743	84	6,452	1,037	229	11			118			
Fort Kamehameha	do	do	513	38	551	225		326	64	2	3			7			
Fort Ruger, Honolulu	do	do	531	43	574	340	2	232	58	1	2			4			
Schofield Barracks, Honolulu	do	do	1,567	3,931	15,498	10,849	50	4,599	1,055	117	20			110			
Fort Shafter, Honolulu	do	do	3,168	252	3,420	2,265	1	1,154	428	2	3		0	10			
Fort Howard, Md	do	do	1,232	451	1,683	1,205	20	458	128	6	3			21			
Fort Huachuca, Ariz	do	do	2,793	1,384	4,177	2,674	17	1,486	267	47	4			31			
Fort Hunt, Va	do	September, 1919	308	96	404	290	3	111	44	1	1			7			
Jackson Barracks, La	do	December, 1919	2,606	2,390	4,996	3,307	95	1,594	566	35	6			39		2	1
Fort Jay, N Y	do	do	3,322	2,580	5,902	3,505	74	2,323	645	59	8			67		1	
Jefferson Barracks, Mo	do	do	17,181	11,349	28,530	17,196	265	11,069	2,585	278	32			260		33	1
Fort Philip Kearny, R. I	September, 1917	September, 1919	152	20	172	151		21	20	1	1			6			
Fort Keogh Remount Depot, Mont	April, 1917	December, 1919	222	126	348	207	6	135	55	1	1			5			
Key West Barracks, Fla	do	do	1,042	313	1,355	1,031	6	318	114	2	2			14			
Lakehurst Proving Ground, Lakehurst, N. J.	April, 1918	do	680	164	844	608	1	235	185	1	3			8			
Fort Lawton, Wash	April, 1917	do	943	1,024	1,967	1,247	21	699	135	5	4			20			
Fort Leavenworth, Kans	do	do	9,272	3,721	12,993	9,071	118	3,804	1,378	46	26	4		157		7	
Fort Leavenworth, Kans., Disciplinary Barracks.	do	do	8,909	3,308	12,217	8,516	129	3,572	1,311	125	10		1	37		4	
Fort Levett, Me	do	do	482	158	640	472	2	166	50	2	2			7			
Fort Liscum, Alaska	do	do	206	131	337	216	4	117	80	1	1			6			
Fort Logan, Colo	do	do	5,205	2,297	7,502	4,905	95	2,502	524	135	12			70		7	
Fort MacArthur, San Pedro, Calif	do	do	3,311	1,524	4,835	3,299	67	1,469	607	4	7			39		3	
Fort Mackenzie, Wyo	do	February, 1918	6	4	10	5	1	4	3	1	1			8			
Fort McDowell, Calif	do	December, 1919	6,503	2,124	8,627	5,403	40	3,184	628	81	11			107		8	
Fort McIntosh, Tex	January, 1918	do	31	2,161	2,192	2,095	22	42	753	90	5			50		1	
Fort McKinley, Me	April, 1917	do	1,662	587	2,249	1,625	26	598	174	9	3			21		1	
Fort Meade, S. Dak	do	do	18	32	50	37		13	13	1	1			9			
Fort Michie, N. Y	do	September, 1919	245	57	302	241		61	32	1	1			3			
Fort Miley, Calif	do	December, 1919	404	92	496	331	1	164	37	1	2			12			
Fort Missoula, Mont	do	December, 1917	7	12	19	15		4	13	6	1			8			
Fort Monroe, Va	do	December, 1919	7,780	4,895	12,675	8,788	84	3,803	1,400	87	12			76		11	
Fort Morgan, Ala	do	do	1,741	504	2,245	1,654	5	586	174	14	3			20			
Fort Mott, N. J	do	do	325	193	518	302	8	208	87	1	2			7			
Fort Moultrie, S. C	do	do	2,564	1,144	3,708	2,568	18	1,122	277	14	6			30		3	
Fort Myer, Va	do	do	4,954	2,023	6,977	4,843	34	2,100	502	29	8			52		7	
Fort Newark, N. J	April, 1918	July, 1919	954	299	1,253	820	11	422	220	1	5			22			
Fort Niagara, N. Y	April, 1917	December, 1919	2,855	840	3,695	2,649	57	989	527	1	4			33			
Fort Oglethorpe, Ga	do	February, 1918	1,676	13,420	15,096	12,590	103	1,669	3,599	156							
Do	July, 1919	December, 1919	932	139	1,071	974	8	179	504	217							
Panama Canal Zone:																	
Fort Grant, coast defense of Balboa	do	do	1,947	918	2,865	2,289	7	569	423	30							
Dispensary, Corozal	do	do	3,856	1,216	5,072	3,800	7	1,265	695	57	5			20			
Fort De Lesseps	December, 1917	do	460	189	649	443	2	204	102	4	1			5			
Camp Empire	April, 1917	March, 1919	2,695	892	3,587	2,682	3	902	235	3	5			39			
Camp Gaillard	do	December, 1919	2,665	847	3,512	2,694	7	811	386	21	3			32			
Camp Gatun	do	do	3,517	994	4,511	3,491	18	1,002	309	36	3			30			
Camp E. S. Otis	do	do	4,192	990	5,182	4,109	9	1,064	904	87	3			42			

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

TABLE NO. 20.—*Consolidated numerical reports of sick and wounded, and strength of personnel at United States Army Post Hospitals.*—Continued.

Hospital.	Period operated.		Admissions.			Dispositions.			Maximum monthly number of patients treated.	Minimum monthly number of patients treated.	Average monthly number of personnel on duty.							
											Officers.			Enlisted.		Nurses.	Aides and workers.	Other civilian employees.
	From—	To—	From command.	Otherwise.	Total.	Returned to duty.	Died.	Otherwise disposed of.			Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Medical Department.	Miscellaneous (Q. M. C., etc.).			
Panama Canal Zone—Continued.																		
Quarry Heights	April, 1917	December, 1919	567	536	1,103	713	3	387	233	4	1	.....	.....	8	.....	.....	.....	.....
Fort Randolph	do	do	1,345	368	1,713	1,332	3	378	164	10	2	.....	.....	11	.....	.....	.....	.....
Fort Sherman	do	do	1,470	779	2,249	1,666	6	577	234	14	2	.....	.....	21	.....	.....	.....	.....
Philippine Islands:																		
Augur Barracks, Jolo	do	January, 1918	445	274	719	450	2	267	127	6	2	.....	.....	13	.....	.....	.....	.....
Cuartel de España, Manila	do	December, 1919	2,554	84	2,638	1,011	.....	1,627	250	1	2	.....	.....	8	.....	.....	.....	.....
Camp Eldridge, Laguna	do	do	1,146	487	1,633	1,136	9	488	83	27	1	.....	.....	9	.....	.....	.....	.....
Camp John Hay	do	do	1,189	1,160	2,349	1,207	17	1,125	286	25	2	.....	.....	11	.....	.....	.....	.....
Camp Keithley, Mindanao	do	January, 1918	106	51	157	107	2	48	23	9	1	.....	.....	10	.....	.....	.....	.....
Ludlow Barracks, Mindanao	do	December, 1917	254	102	356	271	1	84	94	19	1	.....	.....	9	.....	.....	.....	.....
Manila (department hospital)	do	December, 1919	389	10,432	10,821	4,114	138	6,569	513	174	10	.....	.....	97	.....	.....	.....	.....
Camp McGrath, Batangas	do	April, 1919	1,019	462	1,481	1,007	4	470	179	3	3	.....	.....	10	.....	.....	.....	.....
Fort William McKinley, Rizal	do	December, 1919	8,595	3,791	12,386	8,163	46	4,177	1,079	223	12	.....	.....	67	.....	.....	.....	.....
Fort Mills	do	do	6,875	3,626	10,501	6,572	61	3,868	782	213	14	.....	.....	87	.....	.....	.....	.....
Camp Nichols, Rizal	do	October, 1917	27	127	154	28	.....	126	47	4	1	.....	.....	2	.....	.....	.....	.....
Camp Overton, Mindanao	do	March, 1918	66	57	123	62	1	60	19	2	1	.....	.....	3	.....	.....	.....	.....
Pettit Barracks	do	December, 1919	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	9	.....	.....	.....	.....
Regan Barracks, Albay	do	October, 1917	149	173	322	165	.....	157	95	4	2	.....	.....	8	.....	.....	.....	.....
Fort San Pedro, Iloilo	do	November, 1917	193	137	330	195	.....	135	74	20	1	.....	.....	5	.....	.....	.....	.....
Fort Santiago, Manila	do	December, 1919	213	4	217	24	.....	193	23	2	.....	.....	.....	.....	.....	.....	.....	.....
Camp Stotsenberg, Pampanga	do	do	7,753	3,023	10,776	7,638	29	3,109	593	215	10	.....	.....	57	.....	.....	.....	.....
Warwick Barracks, Cebu	do	November, 1917	166	144	310	151	.....	159	46	20	1	.....	.....	5	.....	.....	.....	.....
Picatinny Arsenal, Dover, N. J.	December, 1917	December, 1919	1,123	477	1,600	1,072	16	512	447	1	2	.....	.....	8	.....	.....	.....	.....
Henry Barracks, Porto Rico	April, 1917	do	225	190	415	232	1	182	47	1	1	.....	.....	5	.....	.....	.....	.....
San Juan, Porto Rico	do	do	8,274	4,875	13,149	8,531	125	4,493	2,258	7	13	.....	.....	73	.....	9	.....	.....
Coast Defenses of Portland, Fort Preble, Me.	do	do	846	407	1,253	901	6	346	122	1	3	.....	.....	12	.....	.....	.....	.....
Presidio of Monterey, Calif.	do	do	1,287	358	1,645	1,211	4	430	226	3	3	.....	.....	64	.....	.....	.....	.....
Presidio of San Francisco, Calif.	do	do	1,096	16	1,112	16	.....	1,096	168	1	18	.....	.....	75	.....	.....	.....	.....
Fort Reno, Remount Depot, Fort Reno, Okla.	do	do	467	109	576	440	6	130	79	2	1	.....	.....	2	.....	2	.....	.....
Fort Revere, Mass.	do	do	599	238	837	609	1	227	101	1	2	.....	.....	12	.....	.....	.....	.....
Fort Riley, Kans.	do	August, 1917	1,638	442	2,080	1,644	8	68	760	21	.....	.....	.....	.....	.....	.....	.....	.....
Do	July, 1919	December, 1919	1,001	457	1,458	1,324	9	847	1,380	185	.....	.....	.....	.....	.....	.....	.....	.....
Fort Robinson, Nebr.	April, 1917	do	263	85	348	254	1	93	88	1	1	.....	.....	10	.....	.....	.....	.....
Rock Island Arsenal, Ill.	do	do	2,830	715	3,545	2,809	17	719	521	4	3	.....	.....	24	.....	3	.....	1
Fort Rodman, New Bedford, Mass.	do	do	775	176	951	765	5	181	84	1	2	.....	.....	10	.....	.....	.....	.....
Fort Rosecrans, Calif.	do	do	2,382	2,131	4,513	2,798	72	1,643	694	20	6	.....	.....	30	.....	2	.....	.....
Fort D. A. Russell, Wyo.	do	do	6,284	2,260	8,544	6,090	32	2,422	986	4	13	.....	.....	76	.....	3	.....	.....

San Antonio Arsenal Infirmary, San Antonio, Tex.	May, 1918	do	134	4	138	78	......	60	19	1	1	......	......	2	......	......	......	......
Savanna Proving Ground, Ill.	September, 1918	do	181	59	240	175	1	64	38	1	1	......	......	3	......	......	......	......
Fort Schuyler, N. Y.	July, 1917	do	620	173	793	584	1	208	68	3	2	......	......	11	......	......	......	......
Fort Winfield Scott, Calif.	April, 1917	do	2, 470	15	2, 485	111	1	2, 373	440	1	10	......	......	60	......	......	......	......
Fort Screven, Ga.	do	do	3, 920	1, 721	5, 641	3, 810	35	1, 796	811	15	5	......	......	34	......	......	......	......
Fort William H. Seward, Alaska	do	do	396	130	526	373	7	146	137	1	2	......	......	10	......	......	......	......
Fort Sill, Okla. (Camp Doniphan)	do	September, 1917	882	4	886	741	2	23	452	57	15	1	......	107	......	......	......	......
Fort Sill, Okla.	July, 1918	December, 1919	8, 814	1, 882	10, 696	9, 404	89	1, 330	2, 684	165	15	1	......	107	......	......	......	......
Fort Slocum, N. Y.	do	do	8, 857	3, 037	11, 894	7, 877	139	3, 878	1, 341	79	18	......	......	137	......	5	......	......
Springfield Armory, Mass.	do	do	821	265	1, 086	853	10	223	213	4	1	......	......	5	......	......	......	1
Fort Standish, Mass.	June, 1917	March, 1919	765	309	1, 074	832	......	242	135	1	2	......	......	13	......	......	......	......
Fort Stevens, Oreg.	April, 1917	December, 1919	3, 821	1, 456	5, 277	3, 899	54	1, 324	541	8	6	......	......	38	......	3	......	......
Fort St. Michael, Alaska	do	do	69	66	135	61	4	70	27	1	1	......	......	6	......	......	......	......
Fort Story, Va.	do	do	579	91	670	513	9	148	52	1	1	......	......	4	......	......	......	......
Fort St. Philip, La.	do	do	685	165	850	638	6	206	68	2	2	......	......	9	......	......	......	......
Fort Strong, Mass.	do	do	1, 338	642	1, 980	1, 386	3	591	142	6	3	......	......	20	......	......	......	......
Fort Terry, N. Y.	do	do	1, 214	519	1, 733	1, 186	16	531	123	5	3	1	......	27	......	......	......	......
Fort Thomas, Ky.	do	do	6, 860	2, 678	9, 538	6, 246	100	3, 192	1, 131	106	12	......	......	98	......	7	......	......
China Expedition, Tientsin, China	do	do	3, 569	1, 503	5, 072	3, 496	22	1, 554	301	92	4	......	......	35	......	......	......	......
Fort Tilden, N. Y.	do	do	301	83	384	256	1	125	36	2	1	......	......	5	......	......	......	......
Fort Totten, N. Y.	do	do	2, 475	1, 026	3, 501	2, 518	14	969	263	16	6	......	......	44	......	......	......	......
Valdez, Alaska	do	do	40	3	43	25	......	18	5	1	......	......	......	2	......	......	......	......
Vancouver Barracks, Wash.	do	do	12, 348	9, 269	21, 617	12, 417	228	8, 972	2, 556	8	17	......	......	134	......	15	......	......
Fort Wadsworth, N. Y.	do	do	1, 700	595	2, 295	1, 604	4	687	155	7	3	......	......	47	......	......	......	......
Fort Ward, Wash.	do	do	234	31	265	226	2	37	45	1	1	......	......	9	......	......	......	......
Fort Warren, Mass.	do	do	600	306	906	628	7	271	113	2	2	......	......	13	......	......	......	......
Washington Barracks, D. C.	do	do	1, 452	4	1, 456	38	......	1, 418	243	1	4	......	......	10	......	......	......	......
Fort Washington, Md.	do	do	1, 425	413	1, 838	1, 345	11	482	250	3	3	......	......	15	......	......	......	......
Watertown Arsenal, Mass.	do	do	869	185	1, 054	823	8	223	113	1	2	......	......	11	......	......	......	1
Watervliet Arsenal, N. Y.	do	do	742	381	1, 123	739	5	379	143	2	2	......	......	6	......	......	......	......
Fort Wayne, Mich.	do	do	1, 728	1, 492	3, 220	1, 931	31	1, 258	380	1	6	......	......	32	......	......	......	......
West Point, N. Y. (cadet hospital)	do	do	2, 125	503	3, 628	3, 057	8	563	308	36	7	......	......	66	......	2	......	......
West Point, N. Y. (enlisted men's hospital).	do	do	1, 305	406	1, 711	1, 214	22	475	188	28	......	......	......	......	......	......	......	......
Fort Wetherill, R. I.	do	August, 1919	437	101	538	426	1	111	59	1	2	......	......	11	......	......	......	......
Fort Williams, Me.	do	December, 1919	1, 700	634	2, 334	1, 706	35	593	216	5	3	......	......	20	......	2	......	......
Fort Wingate, N. Mex.	December, 1918	do	544	170	714	537	4	173	183	5	2	......	......	14	......	2	......	......
Fort Wood, N. Y.	April, 1917	do	804	149	953	780	3	170	84	1	3	......	......	7	......	......	......	......
Fort Worden, Wash.	do	do	3, 972	1, 915	5, 887	3, 951	86	1, 850	700	8	7	......	......	39	......	2	......	......
Fort George Wright, Wash.	do	do	896	1, 143	2, 039	1, 129	32	878	271	6	3	......	......	22	......	......	......	......
Fort H. G. Wright, N. Y.	do	do	2, 129	660	2, 789	2, 066	22	701	200	8	3	......	......	26	......	......	......	......
Fort Yellowstone, Wyo.	do	September, 1918	216	104	320	208	3	109	70	5	2	......	......	12	......	......	......	......

CHAPTER XX.

AVIATION HOSPITALS.

The whole question of the history of military hospitals in the United States has been considered, in the previous pages of this volume, in a manner regardless of hospitals especially provided aviation stations. These hospitals at aviation stations were managed in a way somewhat similar to that which obtained at post hospitals in peace times; being small and detached from other training camps, and being provided essentially for the care of local sick and injured, they were not organized as were the large base and general hospitals, but were managed as were post hospitals.

The general problem of providing hospitals for the Aviation Service was entirely distinct from that connected with the provision of hospitals for the Army as a whole. The two activities paralleled one another, aviation hospitals, however, being on a very much reduced scale. The separate provision of aviation hospitals was provided for by an act of Congress approved July 24, 1917, which appropriated special funds for the construction, maintenance, and repair of hospitals at aviation stations, and making the responsibility for the provision of these hospitals that of the Chief of the Aviation Service.[1]

TYPES OF AVIATION HOSPITALS.

In July, 1917, the Chief of the Signal Corps, who was at that time at the head of the Aviation Section, Signal Corps, sent the officer in charge of construction at aviation camps to Camp Borden, Canada.[2] At that time Camp Borden was the foremost flying field on this continent, and the object of the visit of the construction officer was to obtain data which would be of value in the construction of buildings at the aviation camps in the United States. During that period the hospital facilities at Camp Borden comprised merely a small dispensary;[2] and desiring a more adequate provision for the hospitals of the flying fields of the United States, this officer enlisted the services of a leading architect of Detroit to design suitable plans for a cantonment hospital. This was accomplished, and six hospitals so designed were constructed forthwith at Selfridge Field, Mount Clemens, Mich.; Chanute Field, Rantoul, Ill.; Hazelhurst Field, Minneola, Long Island; Scott Field, Belleville, Ill.; and two at Wilbur Wright Field, Fairfield, Ohio.[2] In this original type of hospital three wards were provided to accommodate 24, 12, and 4 patients each, or 40 in all.[3]

The original program called for unit aviation fields with a normal capacity of 450 each, and only in an emergency was it contemplated that there would be double that number. A hospital was accordingly planned for 40 beds, which would be sufficiently large for 5 per cent of a garrison of 800 men, or for the sick of a continuous force of 450 men, with an occasional addition of an equal number. It so eventuated, however, that as soon as the fields planned for 450 men started to operate there were never less than 700 to 900 men assigned to them, and subsequently this number was increased to 1,200 to 2,000 men per unit field.

After the original hospitals had been constructed it was found that the floor space provided for the patients was considerably less than the minimum established at about that time by the Surgeon General, and that instead of 40 patients only 24 could be accommodated in them.[4] This necessitated an enlargement of each hospital, which was effected by extending each of the three wings sufficiently rearward to give the required capacity.[5] This enlarged type of hospital was subsequently built at Kelly Field No. 2, and at Dallas Repair Depot, Tex.[6] Hospitals of the original type and practically the same bed capacity were then erected at each of the following fields: Call, Wichita Falls, Tex.; Rich, Waco, Tex.; Park, Wellington, Tex.; Love, Dallas, Tex.; Barron, Fort Worth, Tex.; Carruthers, Fort Worth, Tex.; Taliaferro, Hicks, Tex.[2]

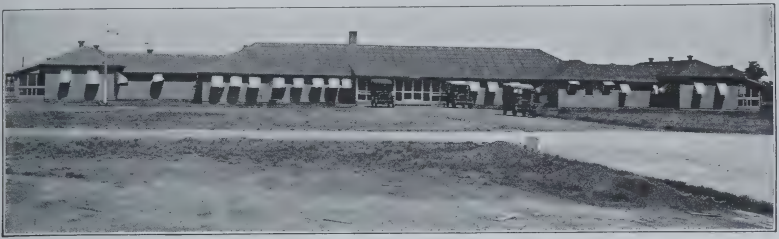

FIG. 123.—Hospital at Love Field, Texas, showing additional wings.

It was not until January, 1918, that a division was organized in the office of the chief surgeon, Aviation Service, for the specific purpose of administering and constructing hospitals.[2] Considerable study was then devoted to the problem of enlarging the original type of hospital to 50 beds. The plan was finally adopted of adding to the original design an isolation wing of 10 beds and an additional ward of 17-bed capacity.[7]

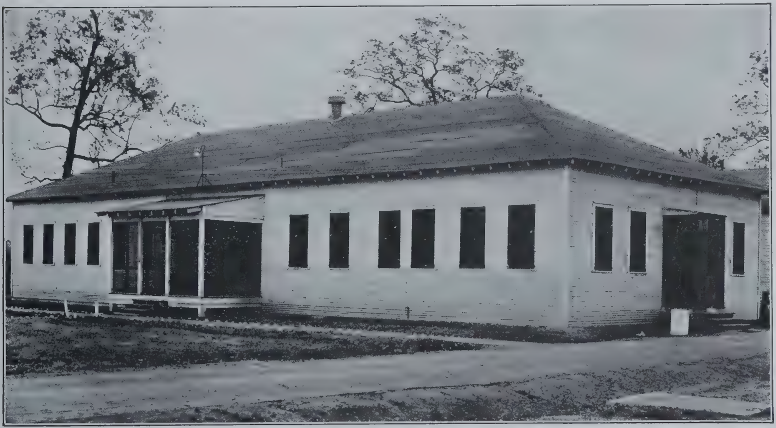

FIG. 124.—Front view of a 50-bed aviation hospital.

Early in February, 1918, the construction division of the Signal Corps made up plans for a 50-bed hospital which were adopted for use at the new single-unit aviation fields.[7] This type, called the 50-bed standard, was erected at each of the following nine fields: Souther, Americus, Ga.; Brooks, San Antonio, Tex.; Payne, West Point, Miss.; Carlstrom, Arcadia, Fla.; Dorr, Arcadia, Fla.; Eberts, Lonoke, Ark.; March, Riverside, Calif.; Mather, Sacramento, Calif.; Taylor, Montgomery, Ala.[6] This standard type of hospital was of the gridiron pattern, consisting of a corridor with perpendicular wings on each side.

Subsequently, a 100-bed standard hospital, similar in plan to the 50-bed standard, was designed and built at Post Field, Fort Sill, Okla.[8] At the Army Balloon School, Arcadia, Calif.,[9] it was used for the construction of a hospital, minus one 20-bed ward. A modification of this type of hospital was also built at Chapman Field, Miami, Fla., which was sufficient in capacity to accommodate 28 patients and a detachment of 14 enlisted men of the Medical Department. This was done with a view to a later extension if such were found to be necessary.

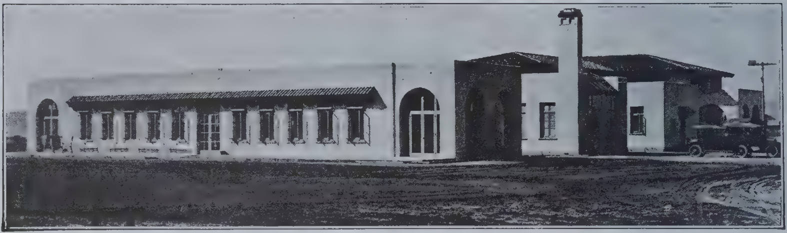

FIG. 125.—Aviation hospital, Rockwell Field, Calif.

The hospital erected at Kelly Field No. 1 was a standard 60-bed hospital; and the hospitals provided the Garden City Air Service Depot and the station at Morrison, Va., were of the corridor and wing type with an original accomodation of 163 beds, subsequently expanded by the addition of wings of 250 beds each.

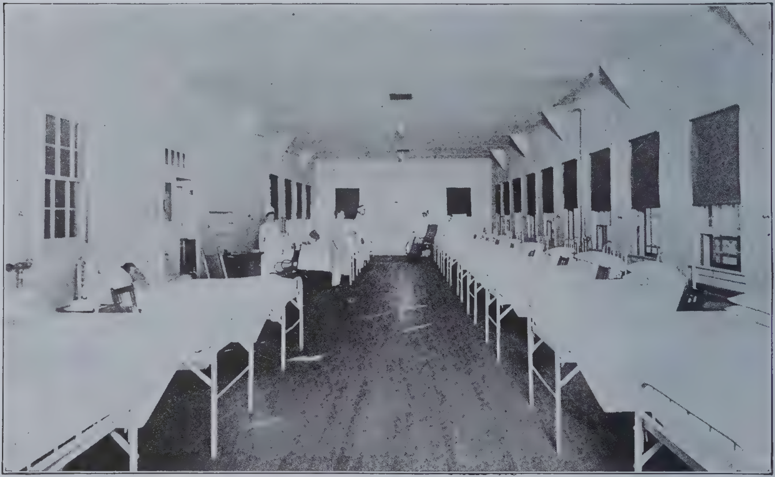

FIG. 126.—A ward, Post Hospital, Eberts Field, Ark.

A 40-bed permanent two-story hospital of Spanish type of architecture was completed about November 18, 1918, at Rockwell Field, Calif. The second story of this hospital was intended solely for the accomodation of the detachment, Medical Department.[10]

An isolation hospital was built at the Mechanics Training School, St. Paul, Minn., from plans drawn by the officer in charge of construction in the chief surgeon's office, in collaboration with the surgeon at the training school. This hospital was of the pavilion type and had accomodations for 120 patients.[11]

Two types of infirmaries were designed: One 8-bed type with a squad room for enlisted men, built at Indianapolis Repair Depot, and McCook Field, Dayton, Ohio; and a 6-bed type with a squad room for enlisted men at Lee Hall, Va., Montgomery Repair Depot, Montgomery, Ala., and Buffalo Acceptance Park, Buffalo, N. Y.[2]

NURSES' QUARTERS.

The standard plans for nurses' quarters for 6, 12, and 30 nurses were prepared with the intention of erecting a building for 6 nurses at each single-unit field, one for 12 nurses at each double-unit field, and a building for 30 nurses at the larger fields.[6] The buildings for 6 and 12 nurses were planned to furnish each nurse with a separate bedroom, with sufficient floor space to permit doubling the number of occupants in emergency. The 30-nurse building contained but 15 rooms. The quarters for these nurses were never authorized by the Secretary of War,[6] and the nurses at all single-unit fields had to be quartered in hospital wards, of which there was always a scarcity. At Eberts Field a dormitory for nurses was constructed with funds temporarily supplied by the American Red Cross.[12] Dormitories with a capacity of 12 nurses were constructed at Post Field, Fort Sill, Okla.; Wilbur Wright Field, Fairfield, Ohio; Army Balloon School, Arcadia, Calif.; Gerstner Field, Lake Charles, La.; and Ellington Field, Fort Omaha, Nebr.[6] Buildings for 30 nurses were constructed at the Air Service Depot, Garden City, Long Island, N. Y., and at Camp Morrison, Va.[6] At the Middletown Supply Depot, Middletown, Pa., the nurses were accomodated in a small wing of the hospital.[13]

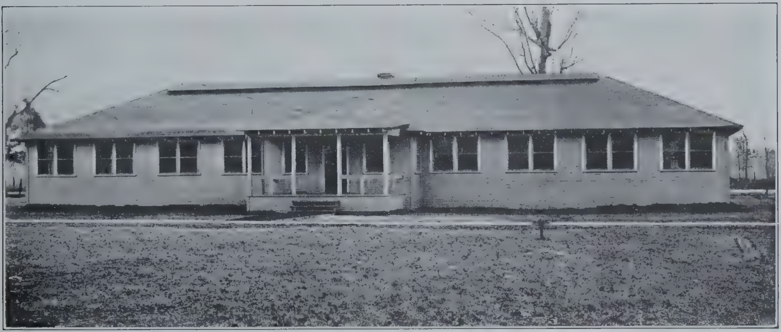

FIG. 127.—Nurses' quarters, Eberts Field, Ark.

ENLISTED MEN'S BARRACKS.

In the early months of the war all aviation hospitals were designed to accommodate the enlisted personnel of the Medical Department in the same building.[3] Later, when it was necessary to increase the capacity of these hospitals, separate barracks were erected for the men; and these were designed to accommodate 30, 60, and 200 men each.[6] The type of 30-men capacity was built at Brooks Field, San Antonio, Tex.; Carlstrom and Dorr Fields, Arcadia, Calif.; Eberts Field, Lonoke, Ark.; March Field, Riverside, Calif.; Mather Field, Sacramento, Calif.; Payne Field, West Point, Miss.; Souther Field, Americus, Ga.; Taylor Field, Montgomery, Ala.; Barron Field, Fort Worth, Tex.; Call Field, Wichita Falls, Tex.; Carruthers Field, Fort Worth, Tex.; Love Field, Dallas, Tex.; Park Field, Millington, Tenn.; Rich Field, Waco, Tex.; Taliaferro Field, Fort Worth, Tex.; Chanute Field, Rantoul, Ill.; Scot Field, Belleville, Ill.; Selfridge Field, Mount Clemens, Mich.; Hazelhurst Field, Mineola, Long Island, N. Y.; and Camp John Wise, San Antonio, Tex.[6]

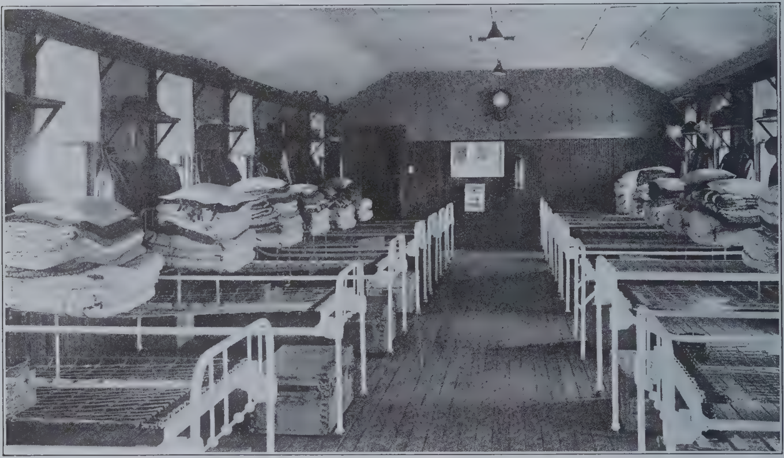

FIG. 128.—Enlisted men's barracks, Post Hospital, Barron Field, Texas.

The type of 60-men capacity was erected at Fort Omaha, Nebr.; Post Field, Fort Sill, Okla.; and Wilbur Wright Field, Fairfield, Ohio.[6]

The 200-men type was erected at the Air Service depot, Garden City, Long Island, N. Y., and at Camp Morrison, Va.[6] At each place a separate building was provided as mess hall and kitchen. At Langley Field, Va., a special barracks for 50 men was constructed, to be used in addition as a detention barracks for new arrivals.[14] At Gerstner Field, Lake Charles, La., a barracks plan was used, which represented half the regulation Department of Military Aeronautics squadron barracks. This accommodated 75 enlisted men of the Medical Department.[15] At Ellington Field, Houston, Tex., the enlisted men's barracks was incorporated in the plan for enlarging the hospital.[16] A special small wing for enlisted men was built at the supply depot, Middleton, Pa., and connected by corridor with the hospital.[17] At Hazelhurst Field, Mineola, Long Island, a wing was likewise provided to accommodate the enlisted personnel of the Medical Research Laboratory at that place.[18]

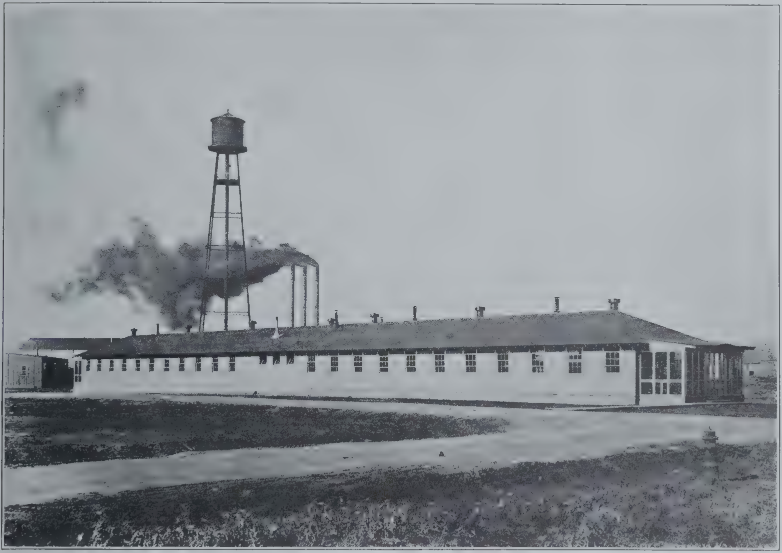

FIG. 129.—Enlisted men's barracks, Post Hospital, Wilbur Wright Field, Ohio.

MORTUARIES.

Separate buildings used as mortuaries were erected at the following aviation fields:[2] Barron, Brooks, Call, Carlstrom, Carruthers, Chanute, Chapman, Dorr, Eberts, Ellington, Gerstner, Camp John Wise, Love, March, Mather, Park, Payne, Post, Rich, Scott, Selfridge, Souther, Taliaferro, Taylor, and Wilbur Wright.

MEDICAL RESEARCH LABORATORIES.

Special buildings to be used as medical research laboratories were constructed at the following fields: Barron, Call, Carlstrom, Eberts, Ellington,

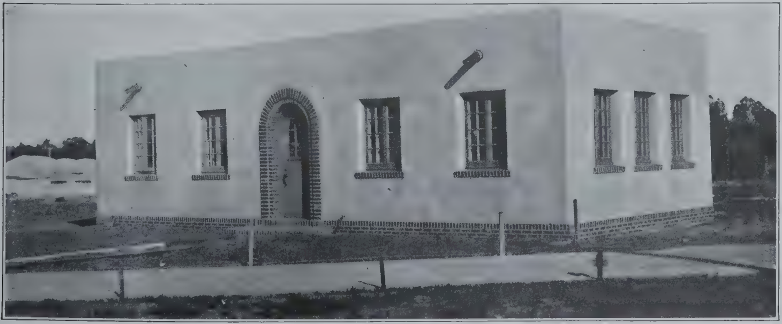

FIG. 130.—Medical research laboratory, Rockwell Field, Calif.

Gerstner, Kelly No. 1, Love, March, Park, Payne, Post, Rich, Rockwell, and Selfridge.[19]

STYLE OF CONSTRUCTION.

All hospital buildings, except the permanent two-story hospital at Rockwell Field, were of one-story type, 2 feet off the ground, built on wooden posts without masonry. They were constructed of wood throughout. The exterior walls were covered with sheathing and siding; interior walls were lined with wood wainscoting with wall board above and on ceilings, and the roofs were covered with two-ply prepared roofing. Ventilators were of metal, and windows and porches were well screened. The operating room was painted with white enamel, and the remainder of the building, both inside and out, was painted white. They were heated by steam, with a separate heating plant for each building. Hot-water plants were provided, and all buildings were lighted by electricity.[2]

CONVALESCENT HOSPITALS.

From the earlier experience of the Allies, and that of the Medical Department of our Army during the fall and winter of 1917–18, it became evident that aviation personnel required not only special medical supervision to prevent their flying when physically or temporarily unfit, but, in addition, places other than ordinary hospitals to which they could be sent for recuperation. At first this problem was solved by giving convalescing officers and others short leaves, designating the localities in which they were to be spent. Many patriotic citizens living near aviation fields opened their homes to the men for week-end parties, and in many instances for longer periods of time. Flight surgeons were thus able to see that men who had become stale or who had worries rendering them temporarily unable to fly were given short periods of rest at these places. This plan, however, was open to the objection that while the aviators were away from the post they were not under the supervision of anyone in authority; and while in the main the results of this policy were good, there were instances when flyers took advantage of this freedom from military supervision, did not take proper care of themselves, and returned to the flying schools without the anticipated improvement. This led to the assignment of special hospitals for the care of such cases.[20]

The Mary Imogen Bassett Hospital, then nearing completion at Cooperstown, N. Y., was offered the Government for the use of the Air Service.[21] The offer was accepted and the hospital was opened for patients in November, 1918. Not many fliers from the United States flying fields were sent to this hospital, but it was used extensively for patients returned from overseas. No cases of acute illness were transferred there. It was only during the period of convalescence in base and general hospitals, when it was found that patients belonging to the Aviation Service did not require confinement to bed, that they were sent to the hospital at Cooperstown.

Another station in the nature of a rest camp was established at Warners, Hot Springs, Calif. This was a substation of Rockwell Field, San Diego, as well as March Field, Riverside, Calif. Both of these fields sent their convalescent patients, without transfer, to this hospital, the patients being merely placed on sick report. A comfortable tent camp was built at the springs, adjacent to a large adobe house in which were located the mess hall and kitchen. The camp was about 80 miles east of San Diego at an elevation of 4,000 feet in the mountains. Near by was a fine landing field, and most of the transportation of the patients from San Diego and Riverside was by airplane. [10]

HOSPITAL EQUIPMENT.

A standard 50-bed equipment was adopted for use in the aviation hospitals [23] and the method of securing it was so simplified that early in 1918 it became the rule to rush hospital buildings to completion ahead of other groups at flying fields, and to have medical personnel and equipment on the field and ready for the arrival of the first troops. Since flying activities began almost immediately thereafter, it was obvious that the Medical Department strove to be ready for all emergency and ordinary needs.

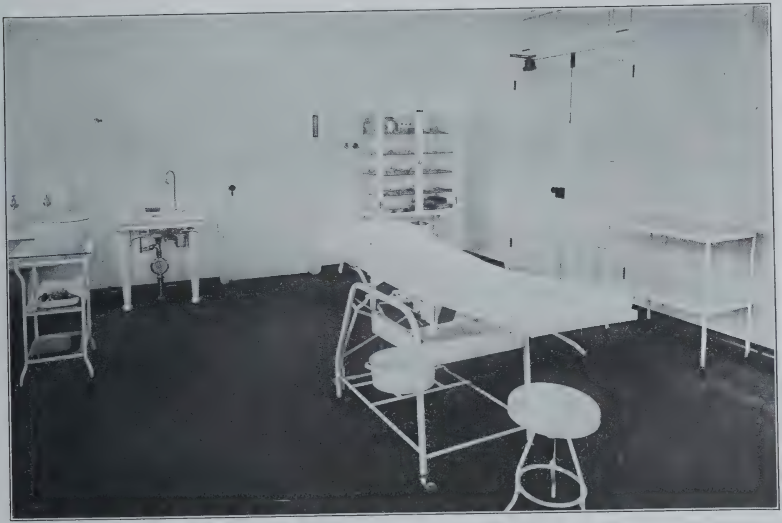

FIG. 131.—Operating room, aviation hospital.

A standard 40-bed equipment was at first furnished the smaller hospitals;[24] and when the single-unit hospitals were enlarged to 50 beds each this equipment was increased accordingly. It thus became a simple matter to set in motion the machinery needed to put a new hospital in order for its first patients. When delays occurred they were due to rail congestion, which was overcome in time, and it is not believed that any actual suffering resulted from the few delays experienced.

As the flying of those in training proceeded and accidents occurred, it became apparent that there was destined to be a heavy drain on the ambulance service of a flying field, for crashes occurred at some distance from the field as frequently as they did on the landing field itself. It was found expedient, therefore, to add wire cutters, axes, and fire extinguishers to the box of surgical dressings usually carried in the ambulances.[25]

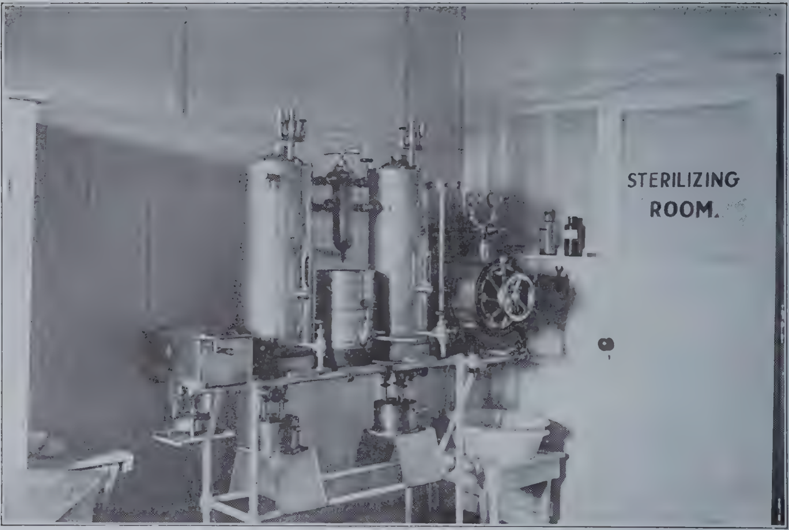

FIG. 132.—Sterilizing room, aviation hospital.

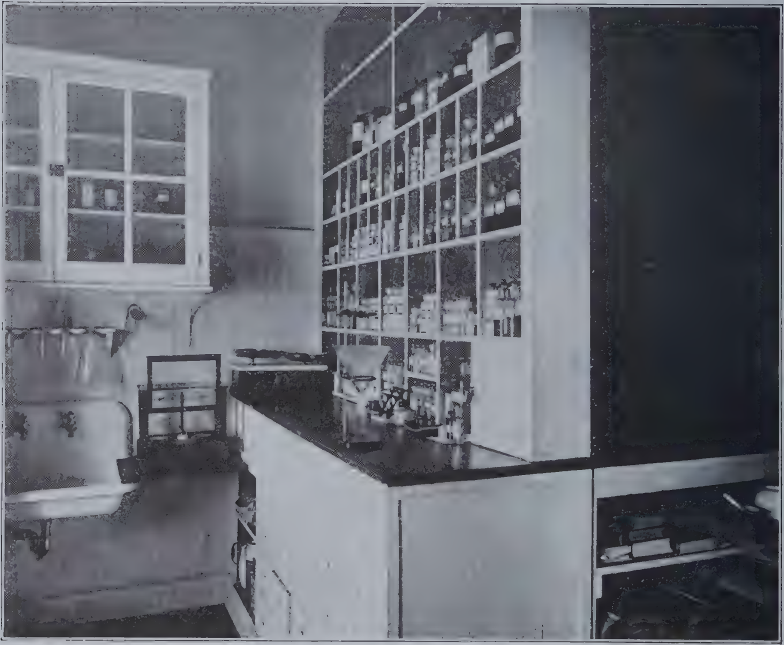

FIG. 133.—Dispensary, aviation hospital.

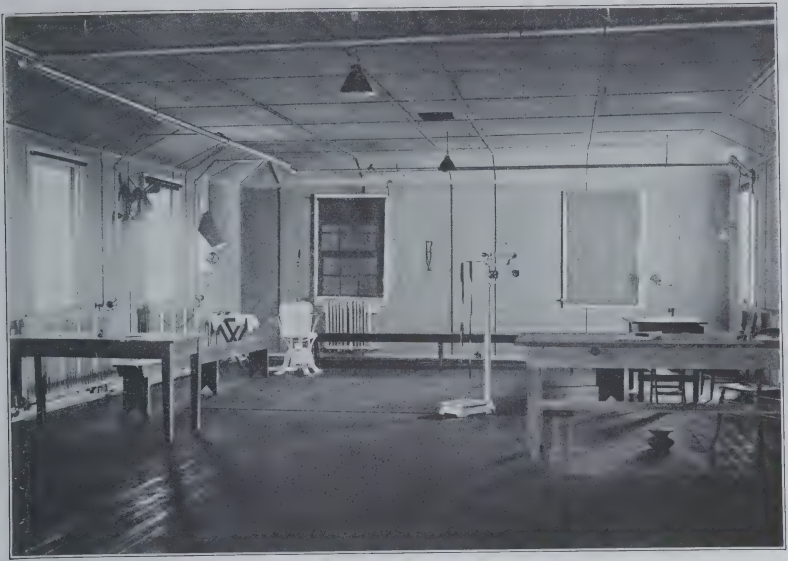

FIG. 134.—Physical examining room, aviation hospital.

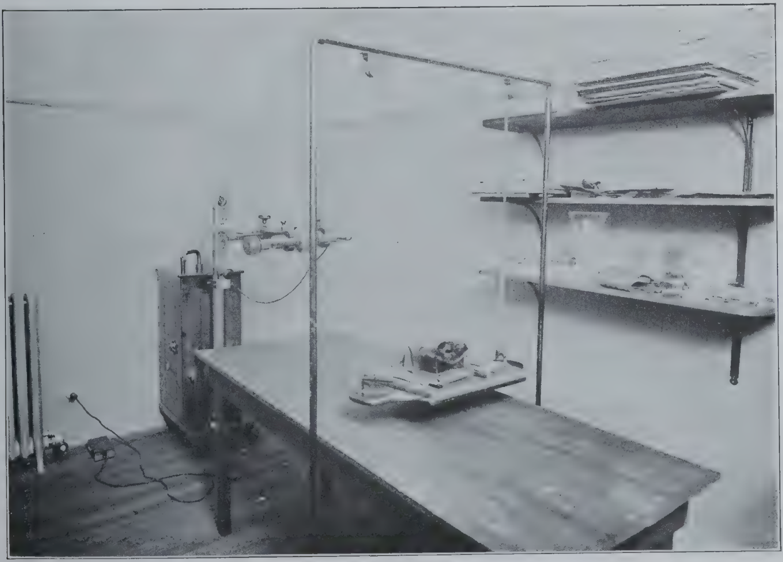

FIG. 135—X-ray room, aviation hospital.

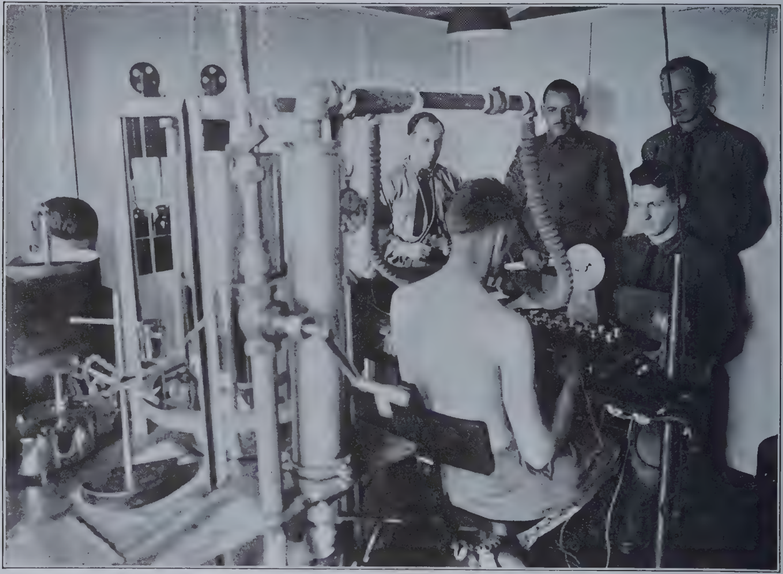

FIG. 136.—Low oxygen tension test room, aviation hospital.

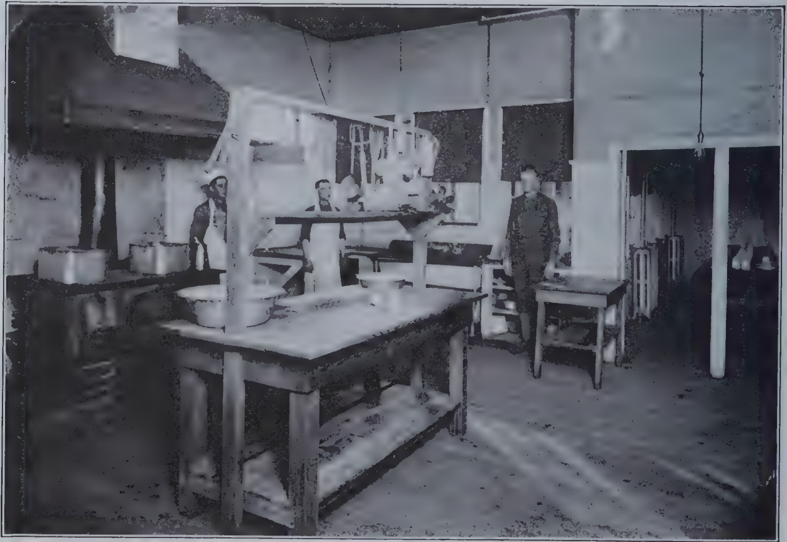

FIG. 137.—Kitchen and mess hall, aviation hospital.

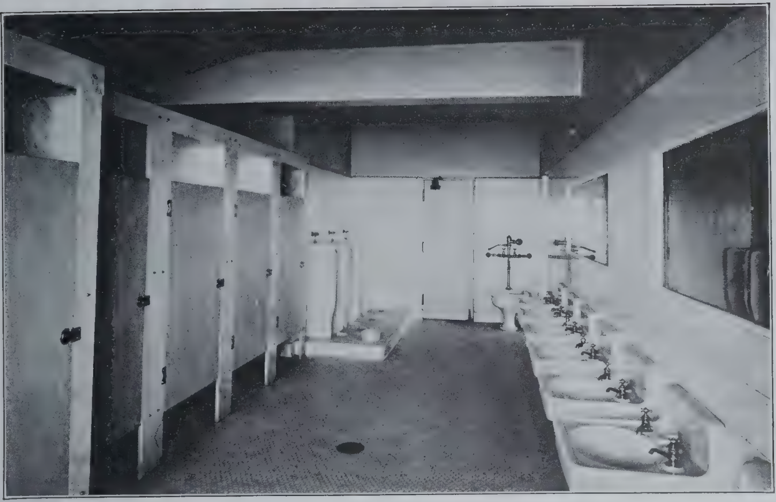

FIG. 138.—Toilet room, Post Hospital, Rockwell Field, Calif.

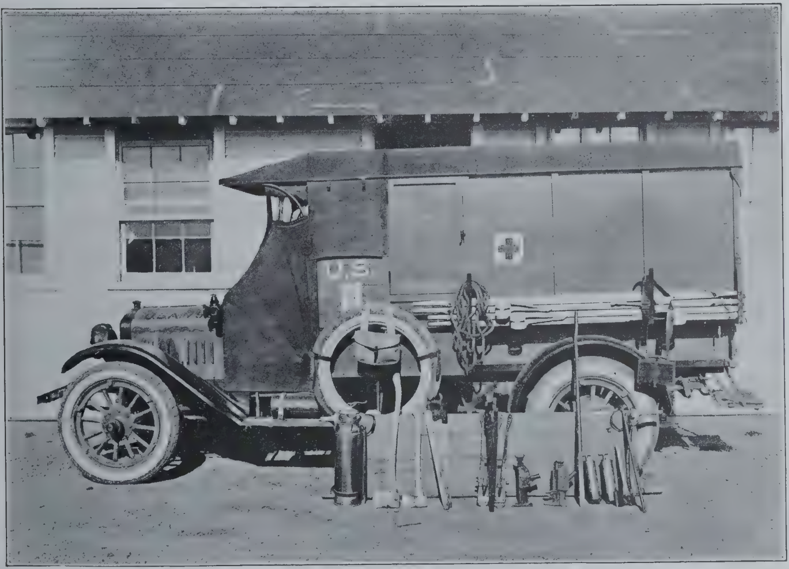

FIG. 139.—Ambulance and field equipment.

Flying fields became so active that auxiliary landing fields were provided at each airdrome, by which means specialized and group flying were accomplished without having needlessly to congest the landing facilities on the single field originally laid out. This led to a demand for additional medical personnel and ambulances so that each auxiliary field, often many miles distant, could have its own medical officer and motor ambulance on duty while flying was in progress.

It was but a step to the improvement of this emergency service by devising an airplane ambulance so designed as to carry a recumbent patient securely strapped in his litter from the scene of accident to the hospital.

REFERENCES.

(1) Bulletin No. 46, W. D., August 15, 1917.
(2) Report on Hospitalization, Air Service, by Lieut. Col. S. M. De Loffre, M. C. On file, Historical Division, S. G. O.
(3) Shown on plans of hospital. On file, record room, office of Chief of Air Service, general files, 632 (Selfridge Field).
(4) Extracts from report of sanitary inspections made during the World War. On file, Record Room, S. G. O. 721–1.
(5) Memorandum from Lieut. Col. Nelson Gapen, M. C., to Lieut. Col. G. H. Crabtree, M. C., November 13, 1917. Subject: Hospital facilities at certain flying fields. On file, chief surgeon's office, Air Service, 632 (general).
(6) Letter from Chief Signal Officer to The Adjutant General, April 16, 1918; and indorsements thereon. Subject: Authority for construction and alterations to various hospital buildings. On file, chief surgeon's office, Air Service, 632 (general).
(7) Plans on file, chief surgeon's office, Air Service.
(8) Shown on plans. On file, record room, office of Chief of Air Service, 632 (post field).
(9) Shown on plans. On file, record room, office of Chief of Air Service, 632 (Balloon School, Arcadia, Calif.).
(10) Letter from Col. W. F. Lewis, M. C., to the Surgeon General, February 26, 1919. Subject Report on sanitary inspection, Rockwell Field, Calif. On file, Record Room, S. G. O., 721 (Rockwell Field) B.
(11) Letter from Col. G. H. Crabtree, M. C., to Lieut. Col. S. M. De Loffre, M. C., September 15. 1918. Subject: Conditions at Mechanics' Training School, St. Paul, Minn. On file, chief surgeon's office, Air Service, 201 (De Loffre, S. M.).
(12) Memorandum from Lieut. Col. S. M. De Loffre, M. C., to the supply section, Department of Military Aeronautics, November 19, 1918. Subject: Nurses' building at Eberts Field, Lonoke, Ark. On file, chief surgeon's office, Air Service, 622 (Lonoke, Ark.).
(13) Third indorsement from Air Service Division, S. G. O., to the surgeon, Aviation General Supply Depot, Middletown, Pa., December 24, 1918. Subject: Quarters for nurses. On file, chief surgeon's office, Air Service, 622 (Middletown, Pa.).
(14) Memorandum from Capt. George Young, jr., Signal Corps, to the Supply Division, Aviation Section, March 2, 1918. Subject: Detention barracks at Langley Field. Plans attached. On file, record room, office of Chief of Air Service, general files, 632 (Langley Field).
(15) Letter from Lieut. Col. W. F. Lewis, M. C., to the Surgeon General, June 29, 1918. Subject: Report of sanitary inspection, Gerstner Field, Lake Charles, La. On file, Record Room, S. G. O., 721 (Gerstner Field) B.
(16) Letter from Lieut. Col. W. F. Lewis to the Surgeon General, January 30, 1919. Subject: Report of sanitary inspection, Ellington Field, Tex. On file, Record Room, S. G. O., 721 (Ellington Field) B.
(17) Letter from the surgeon, Post Hospital, Aviation General Supply Depot, Middletown, Pa., to the Air Service Division, S. G. O., July 3, 1918. Subject: Dormitories for Medical Detachment, this station. On file, chief surgeon's office, Air Service, 621 (Middletown, Pa.).
(18) Shown on plans. On file, record room, office, Chief of Air Service, 632 (Hazelhurst Field).

(19) Memorandum from Maj. Edward Burns, supply section, office of Director of Military Aeronautics, to Air Service Division, S. G. O., September 24, 1918, Subject: Laboratories. On file, chief surgeon's office, Air Service, 632 (general).

(20) Memorandum from Chief of Operations Section, office of Director of Military Aeronautics to Lieutenant Benham, Air Service, September 16, 1918. Subject: Rest camps for aviators. On file, record room, office, Chief of Air Service, general files, 632 B.

(21) Letter from Edward S. Clark, Cooperstown, N. Y., to chief surgeon, Aviation Section, May 17, 1918. Subject: Offer of Mary Imogen Bassett Hospital for care of sick and wounded of the Air Service. On file, record room, S. G. O., 601 (Cooperstown, N. Y.) S.

(22) Letter from the Acting Surgeon General to the surgeon, Port of Embarkation, Hoboken, N. J., October 29, 1918. Subject: Exhausted aviators, returning from overseas. On file, Record Room, S. G. O., 601 (Cooperstown, N. Y.) S.

(23) List of standard 50-bed equipment. On file, chief surgeon's office, Air Service, 400.

(24) List of standard 40-bed equipment. On file, chief surgeon's office, Air Service, 400.

(25) Memorandum from chief of training, Air Division, to the Medical Division, April 13, 1918. Subject: Equipment for ambulances. On file, chief surgeon's office, Air Service, 451.8 (general).

TABLE 21.—*Consolidated numerical reports of sick and wounded, and strength of personnel at United States Army Aviation Hospitals.*[a]

Hospital.	Period operated.		Admissions.			Dispositions.			Maximum monthly number of patients treated.	Minimum monthly number of patients treated.	Average monthly number of personnel on duty.							
											Officers.			Enlisted.				
	From—	To—	From command.	Otherwise.	Total.	Returned to duty.	Died.	Otherwise disposed of.			Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Medical Department.	Miscellaneous (Q. M. C., etc.).	Nurses.	Aides and workers.	Other civilian employees.
Infirmary, Aberdeen, Wash	February, 1918	January, 1919	948	299	1,247	1,000	8	239	181	5	......	......	......	......	......	......	......	......
Wing Foot Lake, Akron, Ohio	April, 1919	July, 1919	20	9	29	16	1	12	14	7	......	......	......	......	......	......	......	......
Americus, Ga	December, 1918	April, 1919	68	4	72	64	......	8	37	10	4	......	......	21	......	......	......	......
Army Balloon School, Arcadia, Calif	April, 1918	December, 1919	1,430	529	1,959	1,375	14	570	347	1	5	......	......	37	......	......	......	......
Spruce Production Division, Astoria, Oreg	May, 1918	September, 1918	75	3	78	65	......	13	33	4	......	......	......	......	......	......	......	......
School of Military Aeronautics, Atlanta, Ga	July, 1917	May, 1918	672	413	1,085	569	......	516	515	9	......	......	......	......	......	......	......	......
Signal Corps School for Radio Mechanics, Austin, Tex.	March, 1918	May, 1919	580	104	684	560	5	119	302	1	3	......	......	7	......	......	......	......
School of Military Aeronautics, University of Texas, Austin	July, 1917	February, 1919	651	121	772	618	3	151	204	1	2	......	......	6	......	1	......	......
Barron Field, Everman, Tex	October, 1917	September, 1919	1,455	541	1,996	1,367	34	595	300	1	6	......	......	33	......	......	......	......
University of California, Berkeley, Calif	July, 1917	February, 1919	1,184	162	1,346	1,123	5	218	212	4	3	......	......	4	......	......	......	......
Fort Bliss, El Paso, Tex	June, 1919	December, 1919	......	37	37	28	......	9	8	3	......	......	......	......	......	......	......	......
Bolling Field, Anacostia, D. C	July, 1918	do	497	31	528	468	2	58	84	3	1	......	......	4	......	......	......	......
Camp Bowie, Fort Worth, Tex	October, 1917	March, 1918	......	120	120	71	......	49	45	3	......	......	......	......	......	......	......	......
Camp Bragg, Fayetteville, N. C	January, 1919	October, 1919	14	4	18	5	......	13	7	5	7	......	......	43	......	6	......	......
Brooks Field, San Antonio, Tex	February, 1918	December, 1919	1,367	339	1,706	1,219	9	478	151	1	5	......	......	24	......	......	......	......
Acceptance Park and Aircraft Production Depot Infirmary, Buffalo, N. Y.	September, 1918	March, 1919	284	16	300	195	2	103	140	7	......	......	......	......	......	......	......	......
University of Vermont, Burlington, Vt	October, 1917	December, 1918	518	258	776	485	17	274	237	1	......	......	......	......	......	......	......	......
Aviation School, Call Field, Wichita, Falls, Tex.	November, 1917	August, 1919	1,039	282	1,321	992	29	300	187	2	5	......	......	23	......	......	......	......
School of Military Aeronautics, Cambridge, Mass.	August, 1917	September, 1918	676	81	757	666	2	89	189	11	......	......	......	......	......	......	......	......
Carlstrom Field, Arcadia, Fla	January, 1918	December, 1919	1,830	487	2,317	1,767	32	518	342	5	5	1	......	39	......	......	......	......
Carruthers Field, Fort Worth, Tex	November, 1917	March, 1919	1,130	556	1,686	1,095	28	563	261	1	7	......	......	31	......	......	......	......
University of Illinois, Champaign (Urbana), Ill.	August, 1917	November, 1918	808	78	886	797	3	86	120	16	3	......	......	7	......	......	......	......
Chanute Field, Rantoul, Ill	July, 1917	November, 1919	2,446	704	3,150	2,395	11	744	341	1	5	......	......	25	......	......	......	......
Chapman Field, Miami, Fla	October, 1918	April, 1919	85	31	116	83	......	33	49	1	2	......	......	11	......	......	......	......
Spruce Production Division, Clatsop, Oreg	April, 1918	January, 1919	107	12	119	96	......	23	37	3	......	......	......	......	......	......	......	......

Air Service Signal Corps, Clatsop, Oreg.	do.	August, 1918	81	4	85	73		12	38	1								
College Station, Tex	December, 1917	December, 1918	734	203	937	690	27	220	388	4								
Ohio State University, Columbus, Ohio	August, 1917	September, 1918	272	48	320	246		74	53	2		1						
Cornell University, Ithaca, N. Y	June, 1917	February, 1919	1,657	363	2,020	1,649	4	367	304	7								
Aviation General Supply Depot, Detroit, Mich.	May, 1918	April, 1919	266	19	285	252	4	29	113	1								
Infirmary, Hotel Charlevoix, Detroit, Mich.	March, 1918	do.	461	106	567	436	2	129	120	18	2			7				
Camp Dick, Dallas, Tex	January, 1918	January, 1919	2,145	509	2,657	2,130	24	503	784	10	13			54				
Dorr Field, Arcadia, Fla	do.	April, 1919	1,144	348	1,492	1,118	6	368	344	3	3			27				
Eberts Field, Lonoke, Ark	February, 1918	November, 1919	1,399	506	1,905	1,328	11	566	340	3	5			27				
Elizabeth, N. J	August, 1918	January, 1919									1			4				
Ellington Field, Houston, Tex	December, 1917	December, 1919	6,418	1,668	8,086	6,230	52	1,804	1,299	9	14			81				
General Supply Depot, Fairfield, Ohio	February, 1918	June, 1918	54	7	61	35		26	21	9								
Fords Island, Hawaii	January, 1919	December, 1919	22	2	24	22		2	5	1	1			5				
France Field, Canal Zone	December, 1918	do.	122	57	179	117	2	60	29	4				2				
Garden City, Long Island, N. Y	October, 1917	do.	11,521	8,429	19,950	10,893	135	8,922	1,735	11	42			300				
Gerstner Field, Lake Charles, La	April, 1917	do.	3,193	761	3,954	3,127	34	793	476	1	7			37				
Godman Field, Camp Knox, Ky	September, 1919	do.	7		7	5		2	3	1								
Camp Greene, Charlotte, N. C. (detention camp Inf.).	March, 1918	July, 1918	165	6	171	161		10	77	12								
Casual Camp, motor mechanics, Camp Greene, Charlotte, N. C.	May, 1918	January, 1919	4		4	1		3										
Hazelhurst Field, Mineola, N. Y	April, 1917	April, 1919	1,895	613	2,508	1,680	33	795	397	1	7			34				
Aviation General Supply Depot, Houston, Tex.	July, 1918	March, 1919	148	9	157	98		59	46	6								
Aviation Repair Depot, Speedway, Indianapolis, Ind.	February, 1918	December, 1919	820	112	932	516	2	414	123	5	2			14				
Signal Corps Barracks, Jersey City, N. J	March, 1918	do.	626	45	671	479	1	191	98	5								
Camp Hospital, Kelly Field, South San Antonio, Tex.	June, 1917	do.	30,676	3,853	34,529	19,571	86	14,872	3,293	120								
Post Hospital, Signal Corps, Langley Field, Hampton, Va.	October, 1917	do.									13			44				
Camp Lee, Petersburg, Va	January, 1918	February, 1918	195	20	215	171		44	125	90								
Balloon School, Lee Hall, Va	July, 1918	December, 1919	1,034	64	1,098	752	2	344	379	3	3			12				
Aviation General Supply Depot, Little Rock, Ark.	November, 1918	April, 1919	155	34	189	152		37	53	2	1			4				
Post Hospital, Love Field, Dallas, Tex.	November, 1917	December, 1919	1,738	426	2,164	1,660	12	492	256	8	6			22				
Aviation Section, Camp MacArthur, Waco, Tex.	January, 1918	July, 1918	738	59	797	654	1	142	270	28								
March Field, Riverside, Calif	May, 1918	December, 1919	1,496	486	1,982	1,424	12	546	370	17	6			29				
Signal Corps, Mathers Field, Sacramento, Calif.	do.	do.	984	195	1,179	947	25	207	319	5	3			20				
Camp Infirmary, McCook Field, Dayton, Ohio.	January, 1918	do.	681	369	1,050	739	16	295	159	10	3			13				
Infirmary, Signal Corps, Camp Meade, Md	September, 1918	February, 1919	709	47	756	580		176	256	10								
Aviation General Supply Depot, Middletown, Pa.	September, 1917	December, 1919	1,219	292	1,511	1,232	10	269	211	1	2			10				
Infirmary, Montesano, Wash	June, 1918	November, 1918	87	4	91	77		14	34	6								
Aviation Repair Depot No. 3, Montgomery, Ala.	July, 1918	February, 1919	778	164	942	647	1	294	202	1	2			21				

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

TABLE 21.—*Consolidated numerical reports of sick and wounded, and strength of personnel at United States Army Aviation Hospitals*—Continued.

Hospital.	Period operated.		Admissions.			Dispositions.			Maximum monthly number of patients treated.	Minimum monthly number of patients treated.	Average monthly number of personnel on duty.							
											Officers.			Enlisted.		Nurses.	Aides and workers.	Other civilian employees.
	From—	To—	From command.	Otherwise.	Total.	Returned to duty.	Died.	Otherwise disposed of.			Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Medical Department.	Miscellaneous (Q. M. C., etc.).			
Aviation Concentration Camp, Morrison, Va.	December, 1917	November, 1919	4,569	3,624	8,193	4,793	73	3,327	1,265	1	18			104				
Fort Omaha, Nebr	April, 1917	December, 1919	5,162	1,561	6,723	4,867	97	1,759	830	33	13			60				
Park Field, Millington, Tenn,	November, 1918	July, 1918	1,781	532	2,313	1,699	33	581	291	2	7			32				
Signal Corps, Payne Field, West Point, Miss.	July, 1918	November, 1919	1,715	465	2,180	1,654	22	504	458	1	4			23				
Carnegie Institute of Technology, Pittsburgh, Pa.	August, 1918	January, 1919	415	80	495	269	9	217	262	5	1			11				
Post Field, Fort Sill, Lawton, Okla	February, 1918	December, 1919	3,317	610	3,927	2,578	45	1,304	577	20	10	1		45		13		
Infirmary, University of Princeton, N. J.	July, 1917	December, 1918	816	79	895	803	1	91	160	6								
Rich Field, Waco, Tex	November, 1917	December, 1919	1,656	412	2,068	1,588	14	466	242	1	40			22				
Aviation General Supply Depot, Richmond, Va.	do	March, 1919	529	53	582	462	1	119	63	8	1			7				
School of Aerial Photography, Rochester, N. Y.	March, 1918	December, 1918	521	122	643	486	11	146	157	18	1			1				
Rockwell Field, San Diego, Calif	April, 1917	December, 1919	4,525	1,143	5,668	4,512	43	1,113	639	41	9			45				
East Field (Rockwell Field), San Diego, Calif.	April, 1918	March, 1919	98	4	102	54		48	27	2								
Imperial Beach, Rockwell Field, San Diego, Calif.	August, 1918	November, 1918	37	1	38	25		13	26	1	1			10				
Oneonta-Ream, Rockwell Field, San Diego, Calif.	June, 1918	May, 1919	317	13	330	203	2	125	70	1								
Aviation School, Scott Field, Belleville, Ill.	July, 1917	October, 1919	1,912	495	2,407	1,849	13	545	246	8	4			21				
Selfridge Field, Mount Clemens, Mich	do	do	1,990	338	2,328	1,933	32	363	256	4	5			21				
Camp Sevier, Greenville, S. C.	January, 1918	July, 1918	414	23	437	373		64	141	17								
English Detachment, Siletz Project, Siletz, Oreg.	February, 1918	March, 1918	6	2	8	6		2	5	3								
Spruce Production Division, South Bend, Oreg.	June, 1918	January, 1919	688	368	1,056	727	38	291	363	33								
Signal Corps, Souther Field, Americus, Ga.	March, 1918	December, 1919	1,055	326	1,381	1,058	22	301	262	3								
Dunwoody Industrial Institute, St. Paul (Minneapolis), Minn.	January, 1918	January, 1919	3,636	983	4,619	3,177	88	1,354	940	8								
Taliaferro Field, No. 1, Hicks, Tex	November, 1917	December, 1919	2,026	546	2,572	1,861	43	668	285	1	5			32				
Royal Flying Corps, Taliaferro Field, No. 1, Hicks, Tex.	do	April, 1918	195	86	281	173	10	98	66	7								
Taylor Field, Montgomery, Ala	March, 1918	August, 1919	776	153	929	749	9	171	144	1	5			30				

Camp Hospital, Camp Alfred Vail, Little Silver, N. J.	June, 1917	December, 1919	2,679	515	3,194	2,551	22	621	278	19	3	......	......	32	......	......	......	......
Vancouver Barracks, Wash.	November, 1917	June, 1918	3,022	453	3,475	1,641	2	1,832	1,013	2	......	......	......	......	......	......	......	......
Spruce Production Division, (Second Provisional Regiment), Vancouver Barracks, Wash.	February, 1918	April, 1918	355	25	380	196	......	184	305	22	......	......	......	......	......	......	......	......
Fifth Aviation Regimental Aviation Camp, Waco, Tex.	May, 1918	July, 1918	104	......	104	96	......	8	101	1	......	......	......	......	......	......	......	......
Camp John Wise, San Antonio, Tex.	January, 1918	May, 1919	2,752	380	3,132	2,443	26	663	1,060	2	9	......	......	41	......	......	......	......
Fort Worth, Tex.	November, 1917	June, 1918	133	7	140	91	......	49	37	6	......	......	......	......	......	......	......	......
Wilbur Wright Field, Fairfield, Ohio	June, 1917	December, 1919	3,806	1,580	5,386	3,812	66	1,508	740	1	7	......	......	31	......	......	......	......

CHAPTER XXI.

THE AIRPLANE AMBULANCE.

The first known report of any plans to transport patients by airplane was made by Capt. George H. R. Gosman, Medical Corps, United States Army, and Lieut. A. L. Rhoades, Coast Artillery Corps, to the Surgeon General of the Army early in 1910. These officers had constructed a plane at Fort Barrancas, Fla., the first flight of which was made in January, 1910. Shortly thereafter Captain Gosman brought his report to Washington and endeavored to obtain funds from the War Deaprtment for the work of improving upon this plane and using it for carrying surgical dressings and transporting patients. His mission failed, but he was undoubtedly the first to point out the great possibilities of the airplane for this purpose.[1]

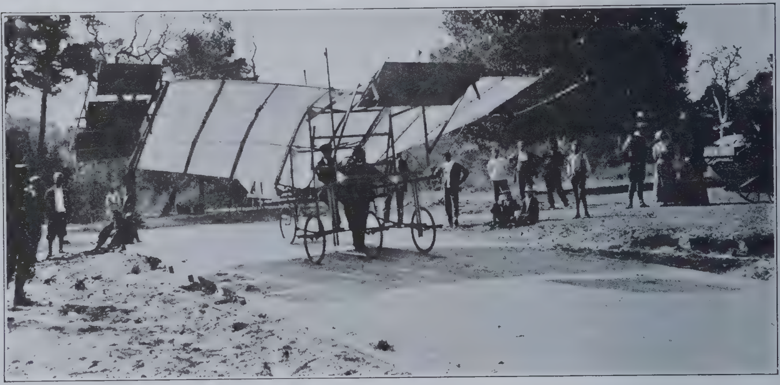


FIG. 140.—Trial flight of the Rhoades-Gosman airplane, January 26, 1910.

In February, 1912, in France, Doctor Duchaüssoy suggested the use of the airplane ambulance.[2] In April of that year a proposal that our Army use the airplane ambulance was made to the representatives of military aviation, who reported to the Secretary of War on May 23, 1912. So far as known, nothing came of this recommendation. However, during the retreat of the Serbian Army in November and December, 1915, 13 wounded or sick were transported 80 to 200 kilometers. This was an emergency measure, and no special provision was made by the modification of the plane. The maneuver was successful, and not only were the patients safely transported, but they escaped otherwise inevitable capture.

In France, during the World War, Doctor Chassaing, a member of the Chamber of Deputies, succeeded in inducing the aviation department to construct an airplane ambulance designed for patients in a recumbent position.

The airplane was first tried out at Villacoublay in September, 1917, and later on the Aisne front.[3]

In the United States Army the necessity for this mode of transportation for flyers injured in crashes became prominent soon after flying fields were established. It was evident that an airplane ambulance would not involve the delay and discomfort of the ordinary ambulance at many of our stations where the roads were poor and the distance great. This was especially true of victims of airplane crashes, who, while in a critical condition, frequently had to be carried long distances and by roundabout roads to reach a hospital. In addition, it was seen that a flying ambulance would offer the means of getting a medical officer to the patient quickly and in some instances would mean the saving of life. So far as records show, the first flying field to use the airplane in transporting medical officers to the site of crashes, and also for transporting patients, was Gerstner Field, Lake Charles, La. This station was located in low swampy country surrounded by many bayous. Crashes occurred at places which could be reached by no transportation except the airplane, consequently, in February, 1918, the commanding officer at that field authorized the conversion of a JN-4 airplane into an ambulance, and it was completed and placed in commission during that month.[4] Two officers on duty at the station made the plans and supervised the construction of this ambulance at Gerstner Field. They are entitled to the credit for first transporting patients in an airplane ambulance in this country. One of them in his report states:

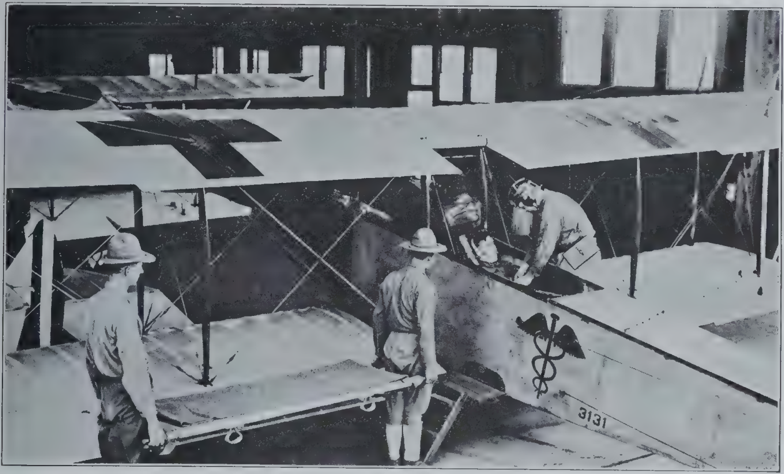


FIG. 141.—Airplane ambulance, first used at Gerstner Field, La., January 28, 1918.

> Up to this time, while we were constructing the airplane ambulance, we used ordinary flying machines to carry doctors to the scene of accidents, and in this way Major Driver was able to save the life of two cadets. In one case a rib punctured the lung, and in one case he arrived in time to stop what would have been a fatal hemorrhage. The surgeon had an emergency kit in the hospital ready to go in the airplane at all times, and the medical officers were ready to fly with any flyers in any machine at any time to the scene of the accidents. They received no flying pay, and their only object was to save life and improve the service by rendering such help as possible to pilots.[4]

The practical utility of the airplane ambulance was at once established; and, based on the reports of actual results at Gerstner Field, the Director of the Air Service, on July 23, 1918, directed the construction of airplane ambulances at all flying fields.[5]

The necessity for providing prompt medical aid at the site of crashes was also recognized at a very early date at Rockwell Field, San Diego, Calif., as is shown by the following communication from the surgeon at that station on February 12, 1918:[6]

> Owing to the size of the flying field at this post, sometimes there is considerable delay before the arrival of the ambulance; also, because accidents occur at distant landing fields which may be remote from medical aid, I have this day improvised a first-aid pouch that can be put in an airplane.
>
> 2. When an accident occurs, I take the Hospital Corps pouch, enter an airplane that is always standing ready, and, piloted by the chief of the training department, reach the scene of the accident in a few minutes, render such aid necessary until the arrival of the ambulance and assistant surgeon.
>
> 3. First Lieutenants Pope, Kramer, and Brooks, M. R. C., have volunteered to answer these calls in my absence and are being trained in such duties.
>
> 4. This, I think, will often be the means of saving lives.
>
> 5. Owing to the urgency of the situation, I have taken this liberty without first consulting the chief surgeon and am writing to ascertain if this meets your approbation.

Major Ream was one of the first medical officers of the United States Army to be designated as a flight surgeon. He was the first flight surgeon to be placed on a flying status. He was killed in an airplane crash at Eppingham, Ill., on August 24, 1918, while on duty with the Middle West flying tour. Ream Field, Houston, Tex., was named in his honor by the Director of Military Aeronautics in September, 1918.[7]

At Ellington Field, Houston, Tex., the first airplane ambulance was commissioned about April 1, 1918, having been constructed on the plans of the first airplane ambulance at Gerstner Field.[8] An improved type was soon designed and was commissioned on July 6, 1918. This was the first plane to use the standard United States Army litter. The commanding officer of the field at that time made the following report upon the work of the airplane ambulance at that station:[8]

> The first airplane ambulance was put into commission at Ellington Field about April 1, 1918. This ambulance was made out of a JN-4D with a Curtis OX-5 engine. Later, when the Signal Corps at San Leon started operation, this airplane ambulance was sent to San Leon and a new airplane ambulance was made out of a JN-4H. The new one was completed and put into commission about July 6, 1918. This ambulance was used a great deal at Ellington Field. San Leon, the gunners' school, was about 17 miles from the main field, and all instruction in aerial gunnery was carried on at San Leon. A great number of crashes occurred at San Leon, and in each instance the injured flyers were transported to the hospital at the main field by means of the airplane ambulance. By bringing the men up in an airplane ambulance the actual time consumed in transportation was about 15 minutes. Had it been necessary to transport these men in a motor ambulance, it would have taken an hour and one-half. Thus it was plain that a great deal of time and possibly lives were saved by using the airplane ambulance.
>
> Several instances occurred where men crashed when out on a cross-country trip at distances varying from 50 to 150 miles from the field. Upon telephonic notification the airplane ambulance was sent to the scene of the crash and the injured flyers were brought in with ease and comfort; whereas, to have brought some of these injured men in by motor ambulance would have meant their death from shock and discomfort because of the seriousness of their injuries. One particular instance is recalled where five planes crashed in a hurricane at Brenham, Tex. In this case it would have taken a motor ambulance at least a day to make the return trip over very bad country roads; whereas the two injured flyers were safely in bed in the Ellington Field Hospital two hours

after the crash, by use of the airplane ambulance. So much use was made of the airplane ambulance at Ellington Field that we considered it as necessary to have the airplane ambulance in condition as we did to have the motor ambulance in condition.

The surgeon of Ellington Field submitted the following report on September 30, 1918:[9]

> Lieut. C. E. ——— suffered a fracture of the left leg, tibia and fibula, and contusion of the face and head, following an airplane crash at Brenham, Tex., September 27, 1918. He was immediately taken to the local hospital, where splints were applied to the leg and the contusions dressed.
>
> On the following day, ambulance ship, *Curtis H*, left Ellington Field at 1.30 p. m., with pilot and medical officer, and arrived at Brenham at 3.15 p. m., making the 90 miles in 1 hour 45 minutes, due to adverse winds. On the return trip, left Brenham at 5.50 p. m., and arrived at Ellington Field at 6.45 p. m., making the trip in 55 minutes, with a favoring wind.
>
> The patient stated that he felt the take off and landing very slightly. The trip across was very smooth, so much so that he almost went to sleep. The loading and unloading did not bother him at all. The difference between the ease and lack of jarring in the ship and ambulance carrying him to the ship was very marked.

In April, 1918, the surgeon at Gerstner Field became interested in transporting patients by airplane ambulance, and substituted an adjustable reclining chair for the litter, in order that the patient might be placed either in a sitting or reclining position.[4] This device, however, did not prove to be satisfactory.

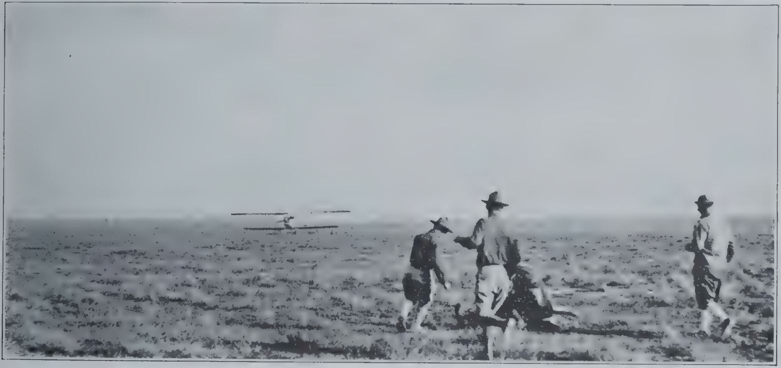


FIG. 142.—JN-4H airplane ambulance approaching scene of accident, Ellington Field.

In August, 1918, the surgeon at Eberts Field, Ark., devised a very useful form of litter to be used in the airplane ambulance at his station. This litter consisted of a frame, made of iron pipe, about 6 feet in length, constructed in such a way that each leg of the patient had a separate frame for splinting purposes. Canvas was laced to this frame, and broad canvas straps were provided to firmly fix all parts of the patient's body to the litter.[1]

An article on the "Ambulance Airship" was published in the *Annals of Surgery* for November, 1918.[10] The drawings and plans for the ambulance plane described bear the date of August 8, 1918. These plans of the Mather Field ambulance are practically identical with those for a plane constructed at Eberts Field and commissioned July 6, 1918. The Ellington Field ambulance was an improvement over the one made at Gerstner Field, and the plans for the Ellington Field ambulance were sent to practically all air service stations. Ambulances built after these plans were constructed in the summer and fall of 1918 at Taylor, Post, Mather, Rich, and Carruther Fields.[1]

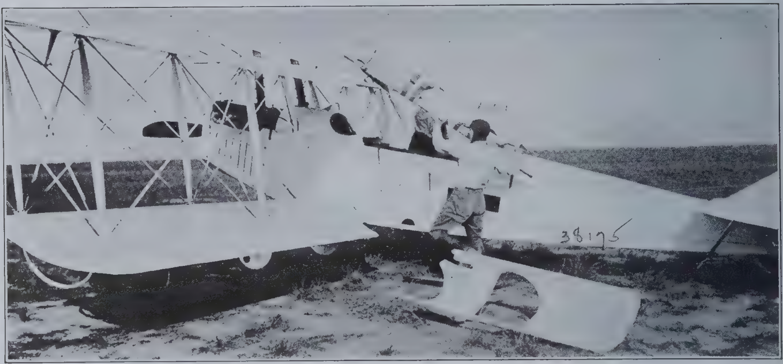


FIG. 143.—JN-4H airplane ambulance. Top removed from fuselage; litter being removed.

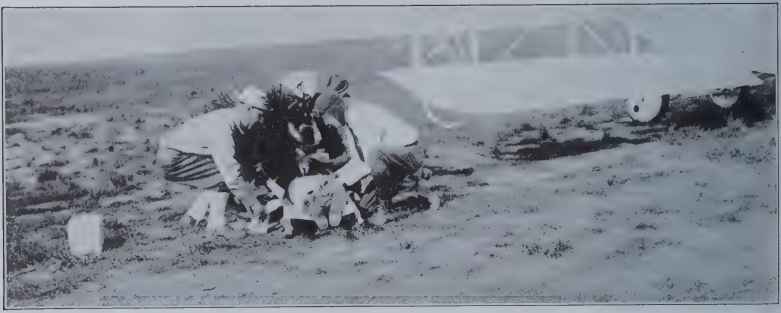


FIG. 144.—JN-4H airplane ambulance. Rendering first aid to patient, Ellington Field.

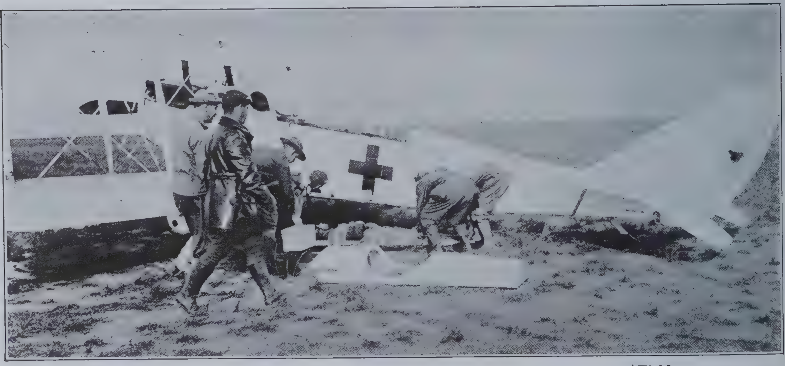


FIG. 145.—JN-4H airplane ambulance. Preparing to "load patient," Ellington Field.

After receiving the instructions noted above from the Director of Air Service, most fields rapidly provided airplanes for transporting sick and wounded. Many of them attempted to improve upon the Gerstner Field and Ellington Field types, developing models of their own, until all flying fields with two or three exceptions were equipped. Ingenious ideas were brought out in the matter of modifying planes and adapting litters. In some a modified Army stretcher was used; in others a Stokes litter in various modifications was used. In most cases the turtle back of the plane was removable, permitting placing the patient inside, or on the fuselage from above; in others from below; while in one model the patient was placed on a coffin-shaped litter and slid into the side of the airplane ambulance similar in manner to sliding the door of a chest. An interesting type was one which used the Stokes Navy litter. The advantages of this form of litter were recognized and emphasized by the flight surgeon at Rockwell Field, in the summer of 1918. In the airplane ambulance which he devised, the bottom of the fuselage was lowered at one end, making an inclined plane along which the Stokes litter slid, manipulated by cables and a small windlass. After the litter was lowered and winched up the incline into place, it was raised by another winch to its final position, flush with the bottom of the fuselage, and locked into place. By using this form of litter the patient could be so securely fastened as to permit handling both patient and litter as one object. The Stokes Navy litter appeared to be the best type devised for the handling of a wounded man, particularly the grave cases usually resulting from an airplane crash. The patient once securely fastened in a Stokes litter did not have to suffer disturbance until placed on the operating table or in his hospital bed. This litter therefore was adopted as the standard type at all flying fields for the use of airplane ambulances. The method, however, of drawing this litter up an inclined plane into the fuselage of the airplane was too complicated for practical use and was abandoned.[1]

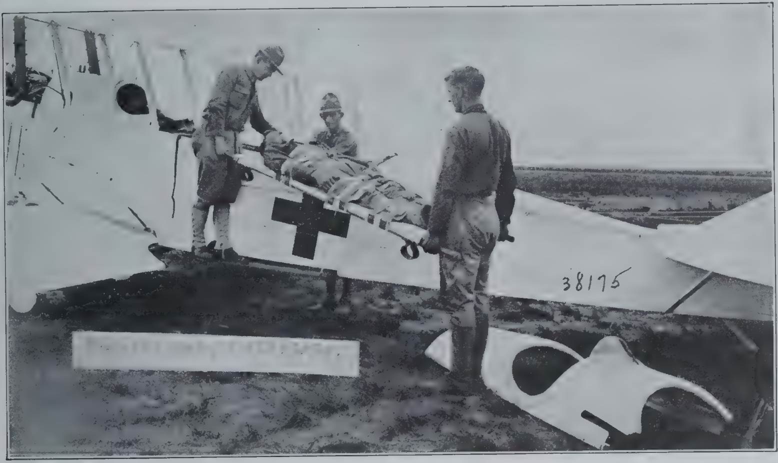


FIG. 146.—JN-4H airplane ambulance. Placing patient in fuselage, Ellington Field.

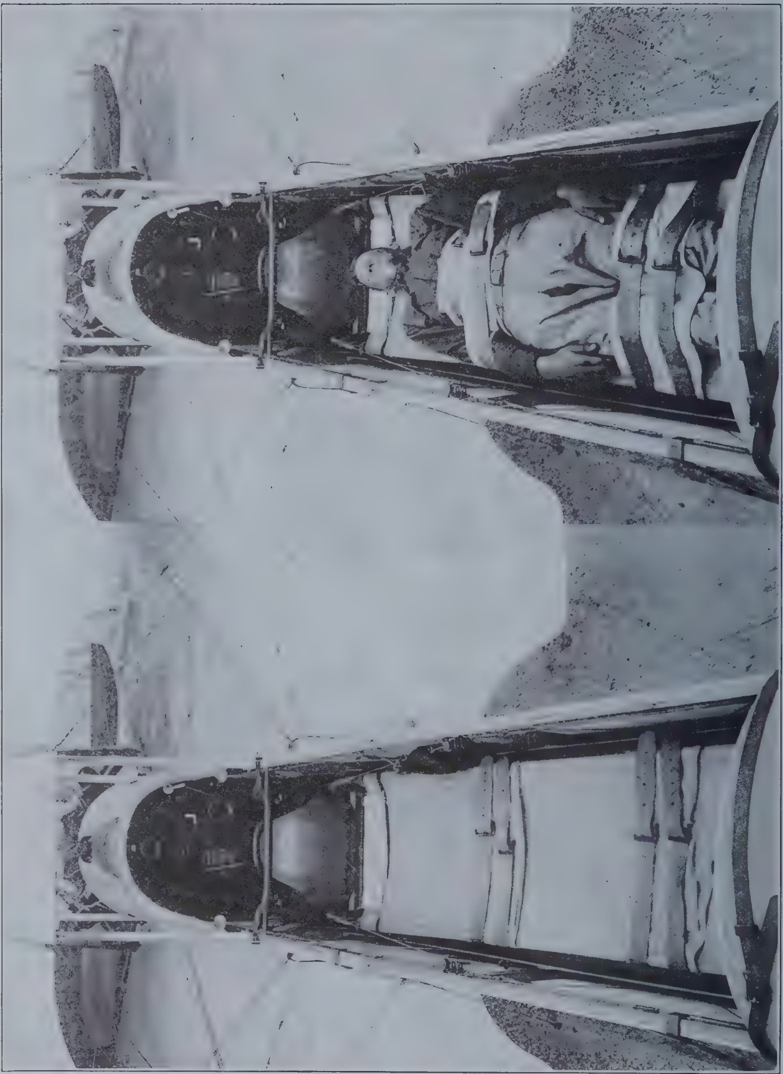


FIG. 147.—JN-5H airplane ambulance, Ellington Field, showing empty and loaded litter.

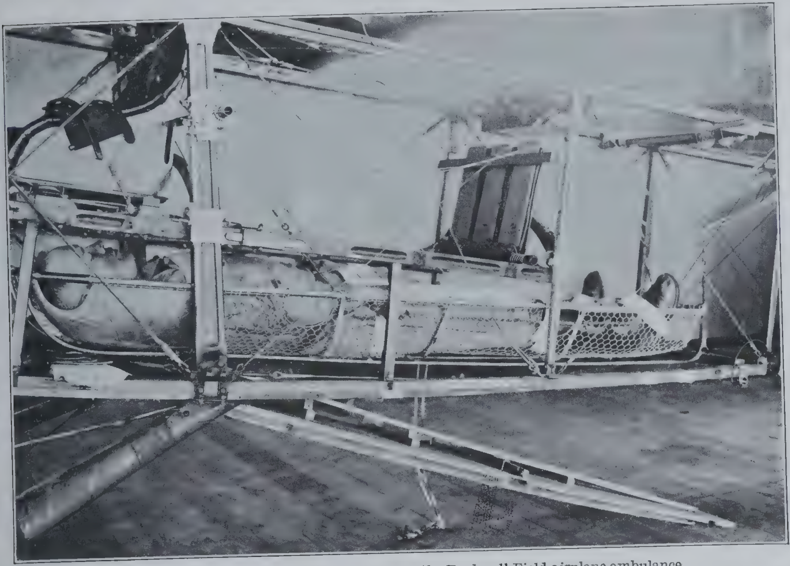


FIG. 148.—Winching Stokes litter into place in the Rockwell Field airplane ambulance.

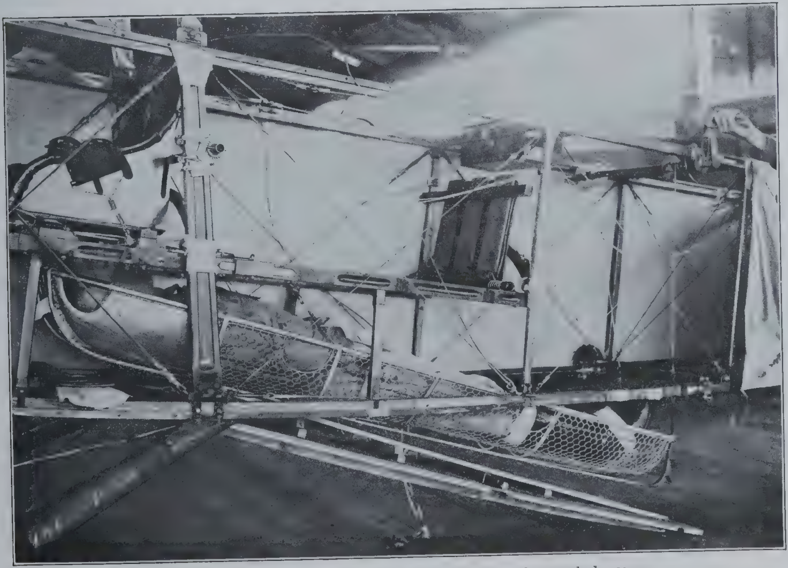


FIG. 149.—Final position of litter, Rockwell Field airplane ambulance.

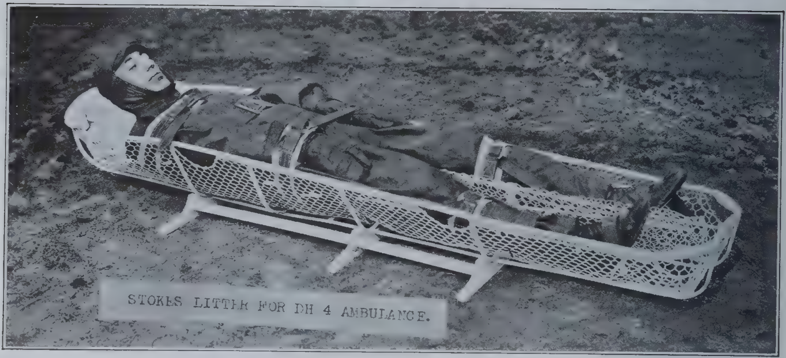


FIG. 150.—Stokes litter for DH-4 airplane ambulance.

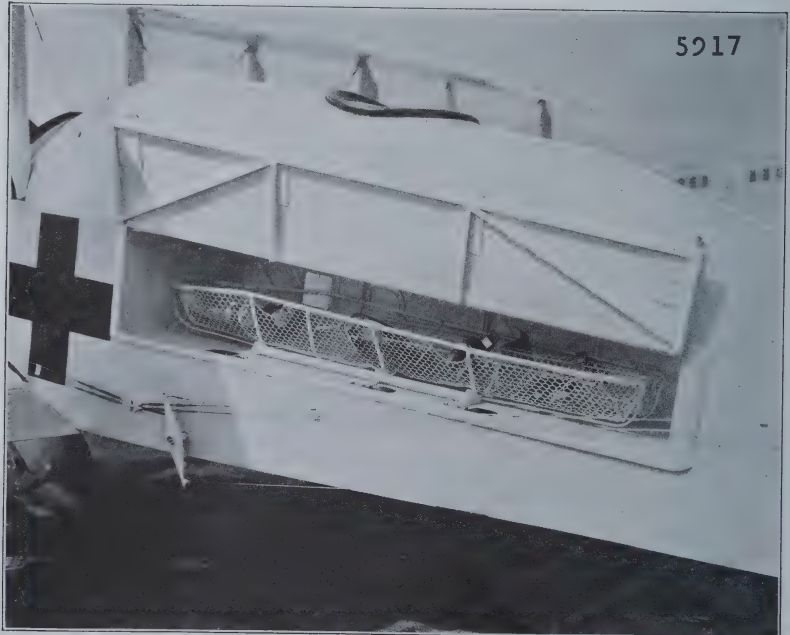


FIG. 151.—Stokes litter in place in a DH-4 airplane ambulance.

From what has been stated above it can readily be seen that the airplane ambulance was extensively used at flying fields in the United States during the World War. It is believed that no other country used it to any extent during the war, since there is little record in the literature outside of what has been mentioned herein.

REFERENCES.

(1) Report on airplane ambulance, by Col. A. E. Truby, M. C. On file, chief surgeon's office, Air Service, 20 (Truby, A. E.).

(2) Duchaüssoy, Blanchard, R.: Le Transport des blessés en Aéroplane. *Medicine*, 1916–1917, Paris, xxi, 53–55.

(3) Letter from Chief, Military Intelligence Branch, Chief of Staff, to Col. L. P. Williamson, M. C., War College, May 1, 1918. Subject: Ambulance airplane. On file, chief surgeon's office, Air Service, 451.8 (general).

(4) Letter from Capt. Wm. C. Ocker, Air Service, to the chief surgeon, Air Service, March 21, 1921. Subject: First airplane ambulance in the United States. On file, chief surgeon's office, Air Service, 451.8.

(5) Letter from the Director of Military Aeronautics to commanding officers of flying fields, July 23, 1918. Subject: Ambulance plane. On file, chief surgeon's office, Air Service, 452.1 (ambulance planes).

(6) Letter from the surgeon, Rockwell Field, San Diego, Calif., to the chief surgeon, Aviation Section, Signal Corps, February 12, 1918. Subject: Attending accidents by airplane. On file, chief surgeon's office, Air Service, 201 (Ream, W. R.).

(7) Office memorandum No. 113, Office of the Director of Military Aeronautics: September 23, 1918. Subject: Names of flying fields. On file, record room, office of Chief of Air Service, 201 (Ream, W. R.).

(8) Memorandum from Maj. W. H. Frank, Air Service, to chief surgeon, Air Service, March 16, 1921. Subject: First airplane ambulance at Ellington Field. On file, chief surgeon's office, Air Service, 451.8.

(9) Letter from post surgeon, Ellington Field, Houston, Tex., to Air Service Division, S. G. O., September 30, 1918. Subject: Report on ambulance ship. On file, chief surgeon's offices Air Service, 451.8 (Houston, Tex.).

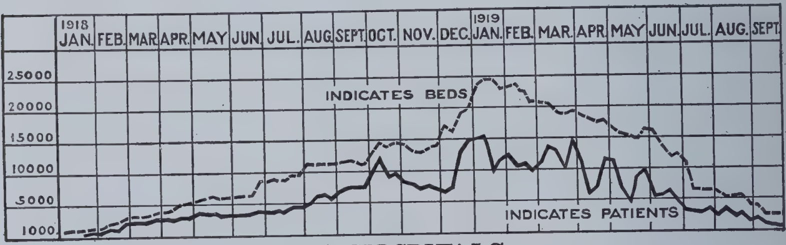
(10) Sharpe, N. W.: The Ambulance Airship, *Annals of Surgery*, lxviii, No. 5. November, 1918.

CHAPTER XXII.

EMBARKATION AND DEBARKATION HOSPITALS.

As will be seen in more detail in that part of the history which deals with ports of embarkation, troops were shipped or disembarked at 11 different ports in the United States and Canada. While this was so, in ports other than New York and Newport News no special port hospitals were maintained. The problem of taking care of overseas sick and wounded need be considered at the two ports of the first class only, New York and Newport News, for no such sick and wounded were transferred from abroad to other ports. At minor ports the casual sick and injured, of troops destined for overseas service, as well as of the permanent personnel at the ports, were sent to local hospitals (Army hospitals whenever practicable); and the same disposition was made of the casual sick of returning troops. At Charleston, S. C., casual patients, homeward bound, were evacuated to the United States Naval Hospital at that place.[1]

When our country entered the World War plans for great ports of embarkation did not exist. It is not to be wondered at, then, that the Medical Department plans were nebulous likewise. Furthermore, throughout the war, no one was prepared sufficiently far in advance to permit the provision of hospitals; to inform the surgeons of ports regarding the number of troops to be embarked month by month; or, even after the armistice, to specify the number of overseas sick and wounded to be shipped back. In consequence, the port surgeons had to estimate both the numbers of embarking troops and the probable number of returning patients. It might be thought that they would have been on firmer ground, so far as the permanent provision of the ports was concerned, but these varied widely at different times. Substandard men were sent to the ports with commands under orders for overseas. Instructions were existent which should have limited this condition to a relatively minor degree, but once at the ports they had, of necessity, to be culled from the physically acceptable, and to be placed in the port hospitals, and no sys-



PORT HOSPITALS

FIG. 152.

tem existed which would constantly and promptly free the port hospitals of these physically unfit men. Literally thousands of such men demanded hospital care from the port medical departments. The fact that the port surgeons at the major ports estimated so closely what they would need in the way of hospital accommodation so that, except at first, all patients could be well taken care of even at the maximum number with no undue extravagance in hospitalization, is an eloquent testimonial to the sound judgment of the officers selected for these difficult duties.

At both New York and Newport News those in local charge experienced considerable difficulty in convincing higher authorities of the needs as regards hospitals.

HOSPITAL SITUATION AT PORT OF NEW YORK.

At New York the first hospital to be made available for Army use was St. Mary's Hospital, Hoboken. Patients in limited numbers were admitted to this hospital as early as June, 1917.[2] On September 18, 1917, it became known as Hospital, Port of Embarkation, and 200 beds were turned over to the Army;[3] but it was not until July 1, 1918, that the entire hospital, with its 650 beds, was taken over by the port surgeon.[4] During October, 1917, arrangements were made with certain civilian hospitals, Englewood Hospital, Englewood, N. J., North Hudson Hospital at Weehawken, Jersey City, Isolation Christ Hospital and St. Francis Hospital in Jersey City, N. J., for the care of a limited number of Army patients, but the aggregate number of all these was less than 200 beds, and the arrangement was most unsatisfactory.[3] Operative cases were made eligible for admission to General Hospital No. 1, Williams Bridge, N. Y., then a 500-bed hospital, in October, 1917.[5] Briefly, then, there were approximately 400 beds available for the Port of New York on October, 1917. These 400 beds had to suffice for the sick of the permanent cadre of the port, and for those detained on preembarkation inspection of troops en route to Europe. During October, 1917, the number detained was 311.[3]

On November 15, 1917, the War Department, predicating its action upon cabled recommendations from General Pershing, that increased effort be made to eliminate venereal diseases from troops embarking for Europe, issued orders directing a preembarkation physical examination of all troops for the detection of venereal disease.[6] Those detained on this inspection were sent to St. Mary's Hospital until such time as adequate provision could be made for their disposition. Meanwhile, negotiations were entered into with the New York State quarantine authorities for the use, by the Army, of hospital space in their quarantine hospital at Hoffman Island,[7] as this was the only civilian hospital in New York City which would accept venereal cases. Arrangements were effected whereby approximately 700 beds were thus made available, the institution being designated as United States Army Hospital, Hoffman Island;[8] later, Embarkation Hospital No. 3.[9] The buildings of this hospital were old and the plumbing and heating arrangements left much to be desired; however, the location was ideal for isolation, and an acute situation was very materially relieved by its acquisition.[10]

At Camp Mills, Long Island, in the fall of 1917, the 41st Division was quartered in tents, and a camp hospital, also under canvas, was maintained for the sick of that organization.[11] The 42nd Division, which had incurred a considerable incidence of contagious disease, had just vacated Camp Mills, leaving behind the potential seeds for disaster. With the advent of cold weather trouble of a serious nature began. Disease in epidemic form made its appearance (scarlet fever, diphtheria, cerebrospinal meningitis, measles, bronchitis, and pneumonia) and the camp hospital, with about 900 beds, was soon filled to overflowing. The water pipes, which had been laid on the surface, were frozen, and the means of heating tents were lacking.[12]

Until this time, War Department plans contemplated control by the Surgeon General of all hospitals in the vicinity of the port of New York, the port surgeon's jurisdiction being limited to the supervision of embarkation and the piers. On November 23, 1917, following a conference between a representative of the Surgeon General's Office and the port surgeon, New York, War Department instructions were issued charging the port surgeon with the responsibility for the distribution of all sick in New York and its vicinity.[13] On the same date the port surgeon received telegraphic instructions from the Surgeon General to relieve the distress at Camp Mills.[14] The tent hospital at Camp Mills was filled to overflowing with sick, a very considerable proportion of whom were contagious cases. The capacity of General Hospital No. 1, with its 500 beds, was soon exhausted, and relief had to be sought in civilian hospitals.[3] After considerable difficulty, bed space was obtained in the following institutions:[15] Bellevue, Willard Parker, Greenpoint, Rockefeller, St. Vincent's, and Mount Sinai Hospitals in New York, and Nassau County Hospital, Long Island. A serious obstacle to the evacuation of sick from Camp Mills was encountered when the railroads refused to transport contagious-disease patients; accordingly, it became necessary to transfer such patients by ambulance, obtained from the Red Cross and the Women's Motor Corps of America, to New York, a distance of approximately 35 miles, through deep snow in almost zero weather.[16]

Meanwhile barracks construction was going on at Camp Merritt, N. J., and several organizations (501st, 502nd, and 503rd Engineers) were sent there for equipment in October. It was not until November, 1917, however, that embarkation troops began passing through this camp in considerable numbers. Before the Camp Mills situation had been relieved epidemic diseases similar to those which had appeared at Camp Mills erupted at Camp Merritt, and here again the port surgeon was confronted with the problem of inadequate bed space.[3] Prior to this time the sick from Camp Merritt had been sent to St. Mary's Hospital at Hoboken and to other civilian institutions in Hoboken and Jersey City, where a few beds had been made available. These were soon filled, and on December 20, 1917, the isolation ward of the base hospital at Camp Merritt was opened[17] and was filled on the same day. At the Secaucus Hospital suitable space was obtained for patients with contagious diseases, 128 cases of mumps being transferred to that hospital on December 18.[3]

The Secaucus Hospital was later (January 9, 1918) taken over by the Army and operated as a contagious-disease hospital under the direction of the port surgeon.[18] No hospital train being available at that time,[3] the transfer of contagious cases from Camp Merritt was made by ambulances and by a hospital car rented from the Erie Railroad.

The base hospital at Camp Merritt was officially opened January 9, 1918, with a bed capacity of 416.[19] These beds were rapidly filled, but they materially relieved the situation. On May 1, 1918, this hospital was increased in bed capacity to 1,200, and eventually (November 1, 1918) it became a 2,500-bed hospital.[20]

On December 23, 1917, Hospital Train No. 1 was sent to the New York port[21] and pressed into service for the relief of the overcrowded situation at the Camp Merritt hospital, and patients were evacuated thence to general hospitals at Fort Ontario, N. Y., Lakewood, N. J., Fort McHenry, Baltimore, and Walter Reed, Washington.

At all times the War Department was slow in being convinced of the needs of New York in regard to hospitals, and between the date of the approval for more hospitals and the time when these hospitals were actually needed for use a sufficiently lengthy period was not allowed for the construction work required to put the buildings in order for occupancy. It was therefore necessary in the emergency to place patients in hospitals before the facilities for their proper care could be completely provided. In one hospital in particular the messing arrangements and appliances were in such a state of incompletion that it was immeasurably difficult to have cooked and served food sufficient for the wants of the patients. Debarkation Hospital No. 3, at the Greenhut Building, New York City, which was made available for patients on November 23, 1918, and Debarkation Hospital No. 5, at the Grand Central Palace, New York City, which opened on December 22, 1918, furnish splendid examples of what may be accomplished in the way of adapting modern commercial buildings to hospital use.

The hospitals at the port of New York, with the date of opening of each, were as follows:[22]

	Date of opening.
Embarkation Hospital No. 1, Hoboken, N. J	July 1, 1918.[a]
Embarkation Hospital No. 2, Secaucus, N. J	Dec. 18, 1917.
Embarkation Hospital No. 3, Hoffman Island, N. Y	Nov. 1, 1917.
Embarkation Hospital No. 4 (Polyclinic Hospital), New York, N. Y	Oct. 20, 1918.
Debarkation Hospital No. 1, Ellis Island, N. Y	Mar. 8, 1918.
Debarkation Hospital No. 2, Fox Hills, Staten Island, N. Y	Aug. 2, 1918.[b]
Debarkation Hospital No. 3 (Greenhut Building), New York, N. Y	Aug. 2, 1918.
Debarkation Hospital No. 4, Long Beach, Long Island, N. Y	Sept. 8, 1918.[c]
Debarkation Hospital No. 5 (Grand Central Palace), New York, N. Y	Jan., 1919.
Auxiliary Hospital No. 1, New York, N. Y	Aug. 24, 1918.
General Hospital No. 1, New York, N. Y	Sept. 1, 1918.[d]
Nurses' mobilization station, Ellis Island, N. Y	June 15, 1917.
Base Hospital, Camp Mills, Long Island, N. Y	Dec. —, 1918.
Base Hospital, Camp Merritt, N. J	Jan. 9, 1918.

HOSPITAL SITUATION AT PORT OF NEWPORT NEWS, VA.

In the early days of the war, conditions, so far as hospitals were concerned, were no better at the port of Newport News than were the conditions described above at the port of New York.

One of the first questions taken under consideration by the port surgeon was the location and the construction of a hospital for the port. At the time of the selection of Newport News for a port of embarkation the medical member of the board appointed for the selection of the port advised that a hospital be constructed on vacant land on the water front, known as the Casino. This land was owned by the Old Dominion Land Co. and was held at a high rental, $15,000 a year. In the opinion of the port surgeon this site for a hospital would have been excellent from many standpoints, and its selection as such was approved by him. However, its selection was disapproved by the Secretary of War personally at an inspection which he made of the port August 1, 1917. Another site for a hospital on leased land at the north end of the town was suggested; but placing a hospital at this point would have caused its separation by a considerable distance from the largest camp of the port, Camp Stuart. A tract of land at Camp Stuart was ultimately chosen as a site for an embarkation hospital, and a hospital of 200 beds was planned.[23]

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[a] Partly used by the Army from June 9, 1917.

[b] Operated as clearing hospital, Fox Hills, from May 10, 1918.

[c] Date of designation. This hospital was not actually used as a debarkation hospital.

[d] Date it was placed under the control of the port surgeon.

On August 22, 1917, the port surgeon addressed a letter to The Adjutant General, in which he reported the fact that 16.7 acres, at Camp Stuart, had been set aside as a site for a hospital, and indicated the length of time requisite to perfect a smoothly operating organization for the care of the sick. He strongly recommended that immediate steps be taken to build a hospital and start its organization. This letter was conveyed to Washington by the commanding general of the port, personally, and indorsed back to the port surgeon, with the inclusive statement that a hospital of 200-beds capacity would be constructed on the selected site at Camp Stuart.[24]

On August 23, 1917, a resident physician of Newport News submitted a proposition to rent his private hospital of 120 beds to the Government for a yearly rental of $10,000.[25] This was disapproved by the Surgeon General.

The number of troops at the port of embarkation utilized for guard duty and various other purposes was now gradually being increased. No hospital facilities for the sick among these men were available, except at Fort Monroe. Sick call was held in the attending surgeon's office, Newport News, and at other places when required, and patients were transported by motor ambulances, and occasionally by trolley car, to the hospital at Fort Monroe. Since the garrison at Fort Monroe was likewise increasing in strength, it required greater hospital facilities; in consequence, the only hospital available to the troops at Newport News became overcrowded about November 1, 1917.[26] Transportation of patients to Fort Monroe was effected by road, which was in wretched condition and proved a severely trying experience for the sick.[26]

Many of the negro stevedores, assigned to the Stevedore Regiment at the port, were taken sick; for them, space was rented in the Whittaker Memorial Hospital, Newport News. About 40 beds were thus made available.[26]

In spite of frequent personal and official requests, made by the port surgeon, for hospital facilities, and emphatic statements of the importance of early completion of the embarkation hospital, construction work was considerably delayed.[27] This delay resulted from a variety of causes, but principally from difficulty in securing material and labor and the necessity for rushing other work. In the meantime, Camp Hill, at the north end of Newport News, had been completed and was filled with troops; many stevedores were encamped to the north of Camp Hill, and Camp Stuart was about to be filled with troops. Two small infirmary buildings at Camp Hill, having a capacity of about 50 patients, were operated as hospitals.[28] Fort Monroe was unable to accept further admissions from Newport News after November 1, 1917.[26]

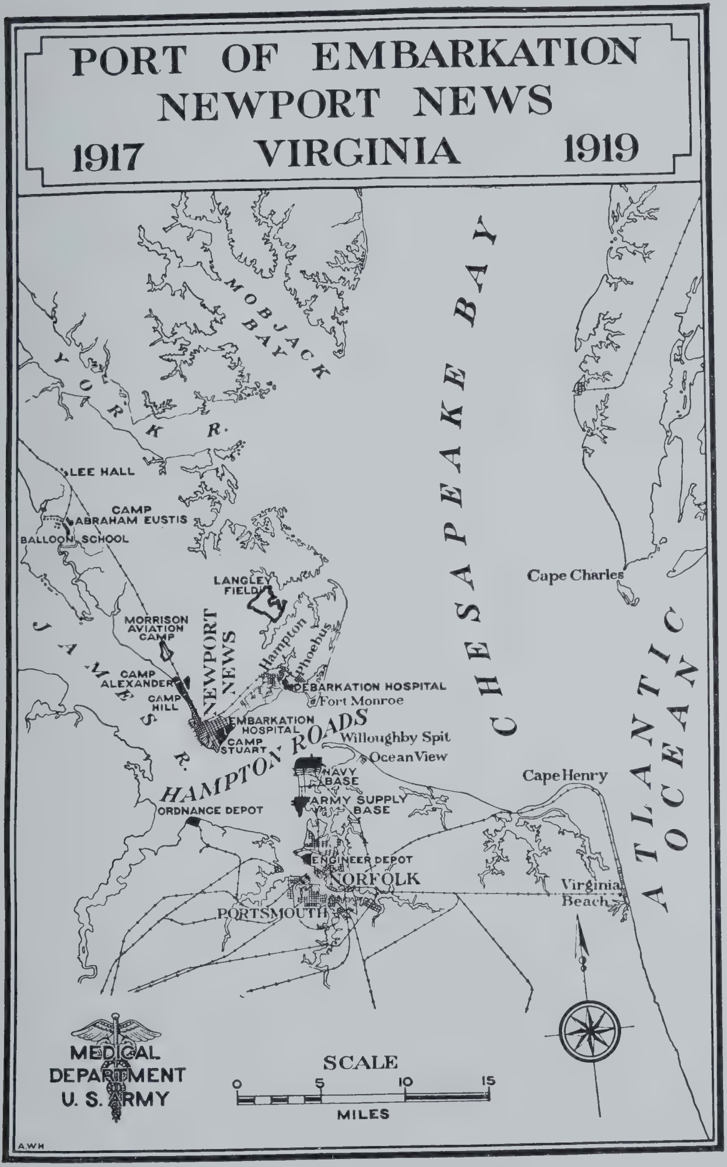
PORT OF EMBARKATION
NEWPORT NEWS
1917 VIRGINIA 1919
MOBJACK BAY
YORK R.
CHESAPEAKE BAY
LEE HALL
CAMP ABRAHAM EUSTIS
BALLOON SCHOOL
LANGLEY FIELD
MORRISON AVIATION CAMP
NEWPORT NEWS
Hampton
Phoebus
DEBARKATION HOSPITAL
Fort Monroe
JAMES R.
CAMP ALEXANDER
CAMP HILL
EMBARKATION HOSPITAL
CAMP STUART
HAMPTON ROADS
Willoughby Spit
Ocean View
NAVY BASE
ARMY SUPPLY BASE
ORDNANCE DEPOT
ENGINEER DEPOT
NORFOLK
PORTSMOUTH
Cape Charles
Cape Henry
Virginia Beach
ATLANTIC OCEAN
MEDICAL DEPARTMENT U. S. ARMY
SCALE
0 5 10 15
MILES
A.W.H.

FIG. 153.

About November 10, 1917, the port surgeon succeeded in securing the equipment of two company groups of barrack buildings, for hospital purposes, at Camp Stuart. Medical property had already been secured for equipping 200 beds; 13 medical officers, 75 enlisted men, Medical Department, were assigned, and by the evening of the 13th, 100 patients were being treated.[23] The buildings which were assigned to the Medical Department were the ordinary temporary barrack type, without water or sewer connections, and accommodated 20 patients on each floor. An operating room was established in one of the wardrooms wherein emergency surgical work was performed as required.[23] This extemporized hospital was gradually augmented until it held over 600 patients. Shortly before January 1, 1918, plans for the embarkation hospital, at Camp Stuart, had been changed, increasing its bed capacity from 200 to 500, various additions having been requested meanwhile.[29] All this time, too, on account of the inadequacy of the hospital, whenever patients temporarily increased in number beyond the capacity of the hospital, these barracks had to be used for hospital purposes. This state of affairs was true of Camp Hill as well as Camp Stuart. This forced use of barracks, though absolutely essential, was most unsatisfactory from every standpoint. Finally, in the latter part of March, 1918, a battalion block of barracks, having a troop capacity of 1,000, was turned over to the Medical Department for hospital use.[30] This block was so near the hospital proper that it was quite as useful from that point of view as if it had been originally constructed for hospital purposes. While it was never used for patients, except convalescents, its component barracks housed nearly all enlisted hospital personnel, as well as convalescents from time to time as necessary. The enlisted personnel of the Medical Department being removed from the hospital proper and quartered in the barracks liberated their quarters at the hospital which it was then possible to convert into wards. After April 1, 1918, barracks were never again used for seriously sick, even during the epidemic of influenza in the fall of 1918. Dating from April 1, then, hospitalization at the port of Newport News was for the first time on a satisfactory basis. A great deal remained to be done, it is true, but subsequent to that time available hospital beds always outnumbered patients instead of the reverse, which had formerly been the case.

Local conditions at Newport News differed decidedly from those which obtained at its larger, sister port, from the hospital standpoint as well as from every military standpoint involving its use as a port: No buildings were available either in the city of Newport News or its vicinity, for use as hospitals; nor were there civilian hospitals sufficiently large to warrant taking them over for Army use. The Hotel Chamberlain at Fort Monroe received some consideration as a possible hospital; but while this large building would have fulfilled this purpose very well, the port commander opposed using it because of its exposed site. The only other possibility was the beautiful Soldiers' Home, at Hampton, Va., which was ultimately secured, but only after authorization by a congressional enactment, and not until immediately prior to the armistice.[31]

While measures for securing the Soldiers' Home were being pursued, and during the summer of 1918, it was necessary to go to Richmond, Va., 85 miles distant, to obtain the nearest satisfactory building convertible to hospital use.[32] In this connection, it should be stated that the peninsula, upon which

Newport News is located, is a swamp, the only high ground of which is near Newport News. Extensive filling was required even at the Embarkation Hospital, and further hospital construction at the port would have involved building in a swamp. Furthermore, there were too many activities already in operation on the peninsula, and on the Norfolk shore. Conditions in these respects were no better on the Norfolk shore than at Newport News.

To secure adjacent hospital facilities, in the face of all these almost insurmountable difficulties, one other possibility presented itself: This was taking over Morrison Aviation Camp in its entirety for a hospital of approximately 5,000 beds.[33] Because of the armistice this project was not carried to a point of completion.

DIFFERENCES BETWEEN PORT AND OTHER MILITARY HOSPITALS.

The hospitals at both New York and Newport News formed groups, in this sense being more like the hospital centers in France, than base or general hospitals in the United States, where each operated independently. In order that each port hospital might play its proper part in group action, the port surgeons exercised direct control over them for the purpose of coordinating their work. Like all activities in a port of embarkation, all the hospitals connected therewith operated constantly under high pressure; instead of following the more or less routine of the ordinary home base or general hospital, port hospitals were so organized and administered as to meet totally unexpected demands at any and all times. Intended, as they were, mainly for temporary care rather than definitive treatment of patients, and thus involving constant and rapid changes, the administrative rather than the professional side of the hospital was emphasized. In respect to the patients culled from troops departing for overseas, the administrative duties of the hospitals, in their connection with these physically unfit, were emphasized. They must be cared for and then properly safeguarded no matter how they came to hospital. Many were admitted to hospital for conditions which were temporarily disabling, necessitating their return in the greatest possible number to their respective commands prior to the time for sailing, at the same time exercising the utmost care to eliminate any who might prove a burden or a source of danger through contagion. In the hurry of departure, when there was a tendency on the part of the troops to forget or disregard every regulation, it was felt that the administrative functioning of the port hospitals could not be too strongly emphasized.

When the current of the sick and injured was reversed, and they began to return from overseas, the administrative problems were more difficult. There were missing records to be replaced, and the disposition of cases by classification and their transfer to inland hospitals to be accomplished. All the many records, having to do with the payment of the patients, had to be made out, and payment actually made. Following this, the patients were gone over again carefully to prevent sending away any unfit to make the proposed journey to some other hospital. The last state, in the administrative details connected with sorting and transferring patients from the ports, had to do with placing them on the hospital cars with such information to the receiving surgeons as would enable them to give any needed treatment en route. The observance of infinite tact was requisite, though this was not solely a characteristic of hospitals of the ports. Many patients were in such a mental state, when debarked, that they were exceedingly difficult to manage. Especially was this true of the officer patients. This mental condition was fostered by the fact that, after the armistice a great many patients were returned from overseas who, upon arrival, were practically well and in a mood resistant to the necessary routine connected with their passage through the port hospitals. Not with the patients alone was tact necessary: their well-wishers varied from the wise to the foolish, and regulations had to be formulated which would encourage the continuance of the valuable assistance of the former, and at the same time curb the activities of the latter to an extent sufficient at least to prevent actual injury to the patients.

The port hospitals, during the war, were by no means on the same plane of activity; quite the contrary. Some of them received only overseas patients, such as the debarkation hospitals, the Greenhut Building and the Grand Central Palace in New York, and the National Soldiers' Home at Hampton, and the great debarkation hospital of the port of Newport News. Certain hospitals in New York were set aside for special purposes such as for the care of contagious diseases; other hospitals, at both ports, discharged a set of functions which combined those of a base hospital with the modifications imposed by the peculiar character of their relation to the culling out of noneffectives from troops going overseas, and the reception of debarking sick and wounded.

REFERENCES.

(1) Letter from the Surgeon General to the port surgeon, Charleston, S. C., January 4, 1919. Subject: Hospital facilities at the port. On file, Record Room, S. G. O., 680.3 (Charleston, S. C.), N.

(2) Letter from Sister Justa, superintendent St. Mary's Hospital, Hoboken, N. J., to the Surgeon General, July 27, 1917. Subject: Account for hospital care and treatment, officers and enlisted men, June 9 to July 19, 1917. On file, Record Room, S. G. O., 193776 (Old Files).

(3) Report of activities of the office of the surgeon, Port of Embarkation, Hoboken, N. J. On file, Historical Division, S. G. O.

(4) Letter from the commanding officer, Embarkation Hospital No. 1, to the Surgeon General, March 7, 1919. Subject: Report of hospital for the year 1918. On file, Historical Division, S. G. O.

(5) Letter from the commanding officer, General Hospital No. 1, to the department surgeon, Eastern Department, October 1, 1917. Subject: Patients. On file, Record Room, S. G. O., 187538–7 (Old Files).

(6) Letter from The Adjutant General to the commanding generals of all divisions, all departments in the United States, all ports of embarkation, and to all staff departments, November 15, 1917. Subject: Inspection for venereal diseases before troops are embarked. On file, Record Room, S. G. O., 726.1–1 (General).

(7) Letter from the Surgeon General to Dr. L. E. Cofer, chief quarantine officer, Rosebank, New York City, October 26, 1917. Subject: Facilities at Hoffman Island for use of the Medical Department. On file, Record Room, S. G. O., 632 (Emb. Hosp. No. 3), I.

(8) G. O. No. 37, Hdqrs., Port of Embarkation, Hoboken, N. J., November 27, 1917.

(9) G. O. No. 88, Hdqrs., Port of Embarkation, Hoboken, N. J., August 2, 1918.

(10) Report of Special Sanitary Inspection, U. S. Army Hospital, Hoffman Island, N. Y., June 27, 1918, by Col. A. E. Truby, M. C. On file, Record Room, S. G. O., 721 (Emb. Hosp. No. 3), I.

(11) Telegram from Brown to the Surgeon General, October 27, 1917. Subject: Hospital facilities at Camp Mills. On file, Record Room, S. G. O., 632 (Camp Mills), D.

(12) Letter from The Adjutant General to the Surgeon General, November 22, 1917. Subject: Congestion, Camp Hospital, Camp Mills, N. Y. On file, Record Room, S. G. O., 705 (Camp Mills), D.

(13) 3d Ind. from The Adjutant General to the Surgeon General, November 23, 1917. Subject: Disposition of patients in New York Harbor. On file, Record Room, S. G. O., 701 (New York, N. Y.), F.

(14) 1st Ind. from the Surgeon General to The Adjutant General, November 23,1917. Subject: Congestion at Camp Mills, N. Y. On file, Record Room, S. G. O., 705 (Camp Mills), D.

(15) Telegram from Kennedy to the Surgeon General, January 3, 1918. Subject: Hospital facilities. On file, Record Room, S. G. O., 701 (New York, N. Y.), F.

(16) Letter from the division surgeon, 41st Division, Camp Mills, N. Y., to the Surgeon General, November 21, 1917. Subject: Hospital facilities at Camp Mills. On file, Record Room, S. G. O., 632 (Camp Mills), D.

(17) Letter from Col. J. M. Kennedy, M. C., surgeon, Port of Embarkation, to Col. J. D. Glennan, M. C., December 12, 1917. Subject: Hospital facilities. On file, Record Room, S. G. O., 701 (New York, N. Y.), F.

(18) Report of special sanitary inspection of the Army Hospital, Secaucus, N. J., June 24, 1918, by Col. A. E. Truby, M. C. On file, Record Room, S. G. O., 721 (Secaucus, N. J.), I.

(19) Telegram from Sloat to the Surgeon General, January 2, 1918. Subject: Estimate time when buildings will be completed at Camp Merritt. On file, Record Room, S. G. O., 652 (Camp Merritt, N. J.), C.

(20) Shown on "Bed reports." On file, Record Room, S. G. O., 632 (U).

(21) Telegram from Reitz to the Surgeon General, December 23, 1917. Subject: Movement of Hospital Train No. 1. On file, Record Room, S. G. O., 322.3 (Hosp. Train No. 1), I.

(22) Shown on monthly report of sick and wounded (Form 51). On file, Medical Records Section, World War Division, A. G. O. (name of hospital).

(23) Report of operations of the surgeon's office, Port of Embarkation, Newport News, Va., from July 16, 1917, to March 21, 1918. On file, Medical Records Section, World War Division, A. G. O., 314.7, retained records, surgeon's office, Newport News, Va.

(24) Letter from the surgeon, Port of Embarkation, Newport News, Va., to The Adjutant General, August 22, 1917, and indorsement thereto. Subject: Hospital at Port of Embarkation. On file, Record Room, S. G. O., 632 (Newport News, Va.), N.

(25) Letter from Dr. Joseph T. Buxton, Newport News, Va., to the Surgeon General, August 23, 1917. Subject: Rental of hospital for use of the Government. On file, Record Room, S. G. O., 201 (Buxton, Joseph T.).

(26) Letter from the surgeon, Port of Embarkation, Newport News, Va., to all medical officers, October 31, 1917. Subject: Care of sick. On file, Record Room, S. G. O., 701 (Newport News, Va.), N.

(27) Letter from the surgeon, Port of Embarkation, Newport News, Va., to the commanding general, Port of Embarkation, September 21, 1917; and indorsements thereto. Subject: Embarkation hospital. On file, Record Room, S. G. O., 632 (Newport News, Va.), N.

(28) Letter from the surgeon, Port of Embarkation, Newport News, Va., to Maj. H. H. Johnson, M. C., Surgeon General's Office, January 8, 1918. Subject: Situation in regard to hospital facilities at this port. On file, Record Room, S. G. O., 632 (Newport News, Va.), N.

(29) Letter from the surgeon, to the commanding general, Port of Embarkation, Newport News, Va., December 10, 1917; and indorsements thereto. Subject: Embarkation hospital. On file, Record Room, S. G. O., 600.1 (Newport News, Va.), N.

(30) Letter from the commanding general, Port of Embarkation, Newport News, Va., to the Chief of the Embarkation Service, Washington, D. C., July 8, 1918. Subject: Provisions for housing enlisted personnel, Medical Department, at Embarkation Hospital. On file, Record Room, S. G. O., 632 (Newport News, Va.), N.

(31) Bulletin No. 60, War Department. November 20, 1918, publishing act of Congress approved November 7, 1918.

(32) Letter from the surgeon, Port of Embarkation, Newport News, Va., to the Surgeon General, July 16, 1918. Subject: Hospital needs at Port of Embarkation, Newport News. On file, Record Room, S. G. O., 721.6 (Newport News, Va.), N.

(33) Letter from the surgeon, Port of Embarkation, Newport News, Va., to the Surgeon General, November 23, 1918. Subject: Hospital accommodations. On file, Record Room, S. G. O., 721.6 (Newport News, Va.), N.

CHAPTER XXIII.

DEBARKATION HOSPITAL NO. 3, NEW YORK CITY.[a]

PROCUREMENT AND ALTERATION OF BUILDINGS.

Debarkation Hospital No. 3 comprised the following four properties: The Greenhut Building, on Sixth Avenue, extending from Eighteenth to Nineteenth Streets; the Cluett Building, 19–23 West Eighteenth Street, and 22–28 West Nineteenth Street, adjoining the Greenhut Building; a building occupying 30–32 West Nineteenth Street, adjoining the Cluett Building; and the Trowmart Inn, Twelfth and Hudson Streets.

The Greenhut Building, the main building of the hospital, was leased, effective July 1, 1918, at $300,000 per year. It had been formerly the Siegel-Cooper Building, a well-known department store, and occupied the full width of the block between Eighteenth and Nineteenth Streets on Sixth Avenue, to a depth eastward of 500 feet. It was a six-story, brick and steel structure; and in addition to the six floors and basement, there were subbasements, several large penthouses, a large glass-inclosed conservatory on the roof, and a seventh story at front and rear.

The total floor area was 650,000 square feet. The building was relatively convenient to the transport docks; near by was a Hudson tube entrance; a subway station was in the basement; and elevated and surface lines passed it on Sixth Avenue.

The selection of this property as a hospital gave rise to some surprise and criticism based on the facts that the elevated trains ran by the building and that the locality was generally a noisy one. However, these detractions had been appreciated when the property had been selected, and it was felt that, since it was planned to keep the debarking sick here only sufficiently long (not over 10 days) to properly prepare them for their transfer to the general hospital nearest their homes, where their definitive treatment was to be given and their convalescent period spent, the poor features of the property had no real import.

The Cluett Building, an 11-story brick and steel structure immediately adjoining the Greenhut Building, was leased, effective October 16, 1918, for $76,500 per year. It was used for housing the personnel of Debarkation Hospital No. 3, and the Medical Department personnel necessary for the manning of the hospital trains operating between New York and the various Army hospitals throughout the United States.

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[a] The statements of fact appearing herein are based on the "History, Debarkation Hospital No. 3, New York City," by Capt. Henry L. Hayes, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The Trowmart Inn, at Twelfth and Hudson Streets, formerly a hotel for working girls, was leased, effective October 1, 1918, as quarters for the nurses on duty at Debarkation Hospital No. 3 and nurses awaiting embarkation.

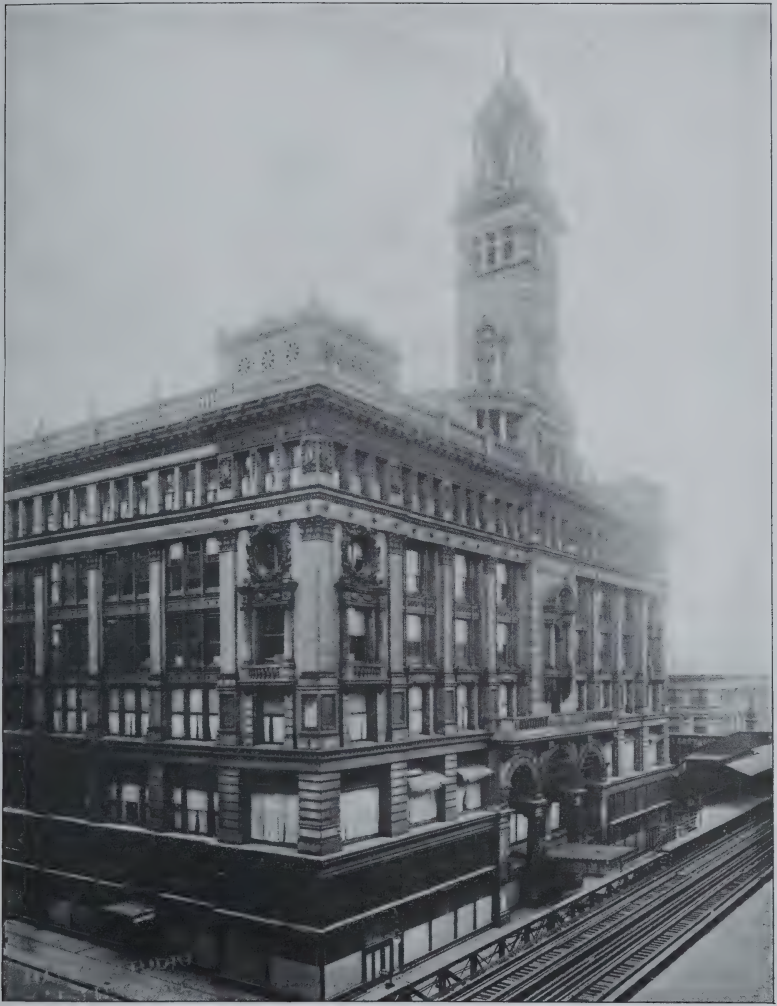


FIG. 154.—Debarkation Hospital No. 3, Greenhut Building, New York City.

The relatively small building, 30–32 West Nineteenth Street, located in the same block as were the Greenhut and Cluett Buildings, was leased at $1 per year from the Mutual Life Insurance Co. of New York.

The Surgeon General requested the leasing of the Greenhut Building on April 23, 1918; and when the lease was executed in June, 1918, to be effective

July 1, the work of planning the necessary alterations was begun. An estimate of cost was prepared, and approval of the necessary funds, $306,400, was requested July 11, 1918. The expenditure of these funds was approved by the Secretary of War on July 31, 1918; and on August 12 the local constructing quartermaster was credited with the allotment, and the alteration work was started. This alteration work was completed on November 23, 82 working days later, the total cost of which was $280,000.

In May and June, 1918, when plans for the alteration of the buildings were being studied, in anticipation of the acquisition of the buildings, it was concluded to divide the floor space into large wards, to utilize and conserve outside light as much as possible and to minimize plumbing and interior partitioning. The use of such large wards was a decided innovation; and against their adoption was the possibility of increased cross-infection, and uncontrollable noise. In the favor of their adoption was the knowledge that natural light and ventilation would be proportionately greater the more minimized was the partitioning of the floors into small wards; that there would be greater accuracy in the construction of the diet kitchens, utility rooms, toilets, etc., at a few large centers on each floor; and that, in this hospital especially, the stream of patients, in and out, could be made to move more smoothly the larger the groups.

The isometric plan, Figure 155, shows how a portion of the first floor, with entrance and exit on Eighteenth and Nineteenth Streets, respectively, was remodeled for receiving and forwarding the sick. On the left and fronting on Sixth Avenue a portion of this floor was turned over to the American Red Cross for a theater and other activities. The mezzanine floor was used for offices, with little alteration. The second floor was altered so as to provide for the general kitchen, diet kitchen, mess halls, and five wards. On the third floor 10 wards were provided. On the fourth floor the surgical operating rooms, facilities for X-ray, dental, ophthalmological, and allied specialities were installed, and eight general surgical wards and the dispensary were provided. The fifth and sixth floors were rearranged for wards solely, 10 on the fifth and 9 on the sixth. The conservatory on the roof was set aside for recreation. A penthouse on the roof was converted into a laboratory for the port of embarkation, and adjoining it was the laboratory animal house. In the basement the refrigeration, light, and power plants were left intact, and facilities for repair, storage, barber shop, hospital exchange, and disinfection were prepared.

The Cluett Building was not greatly altered; an aperture was made in the wall, which separated it from the Greenhut Building, on the kitchen floor of the latter to facilitate food service and intercommunication generally. This building was cleaned, painted, and repaired, lavatories installed, and old partitions removed, each floor being left open, making the living quarters similar to dormitories. The first floor contained a recreation room and gymnasium, with a specially built room for handball and basket-ball and shower baths. On the second floor was the mess hall, which had a seating capacity for 1,200.

Debarkation Hospital No. 3, when completed, had a bed capacity of 3,500; its largest ward contained 157 beds; and in its kitchen food could be prepared for over 5,000. Its receiving section was so organized as to permit the orderly

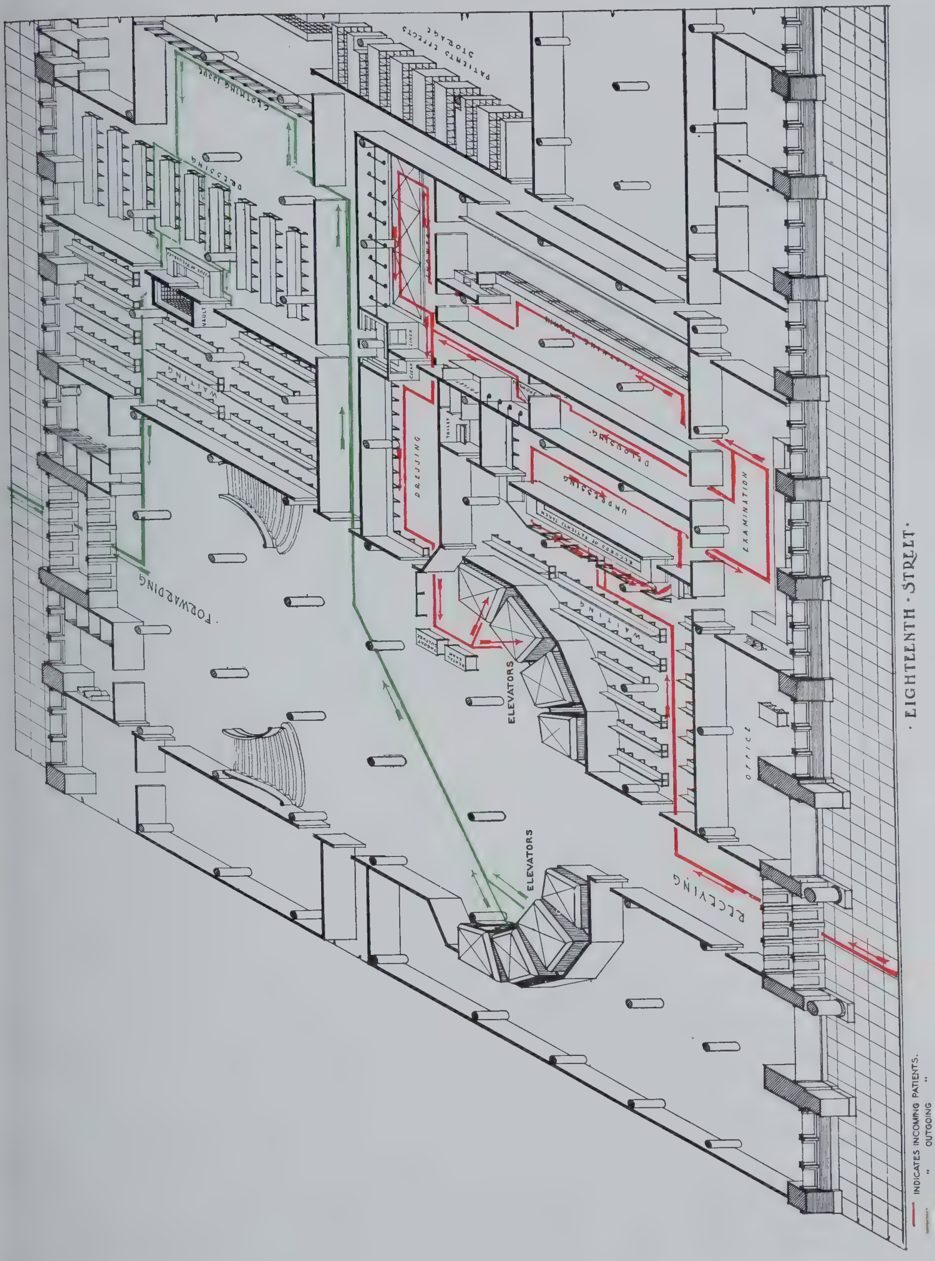
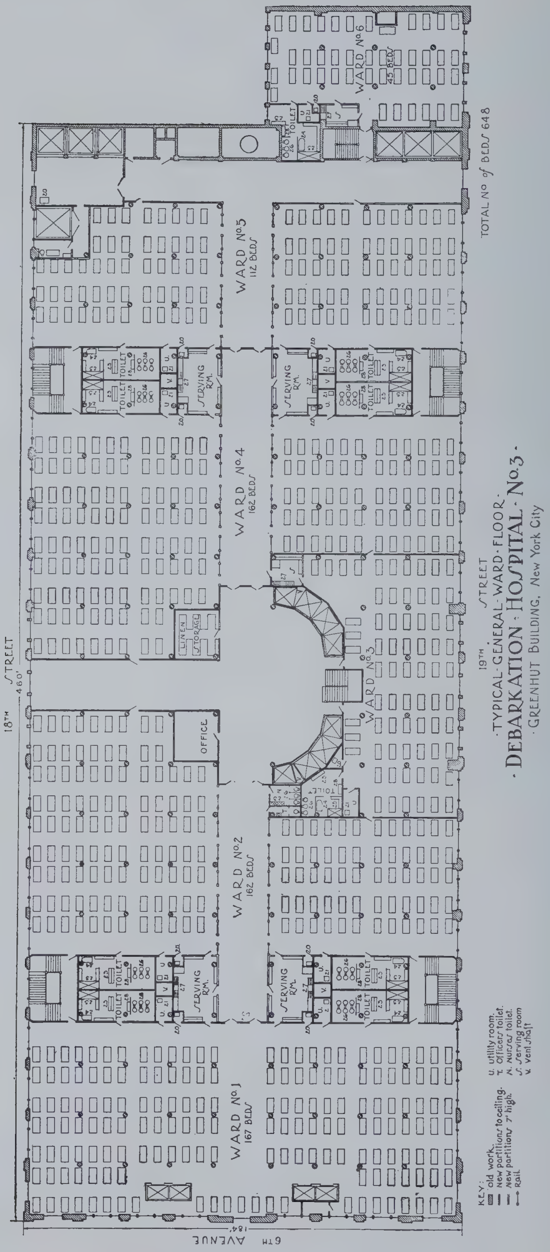


FIG. 155.—Isometric plan of first floor, Debarkation Hospital No. 3.



·TYPICAL·GENERAL·WARD·FLOOR·
·DEBARKATION·HOSPITAL·No. 3·
·GREENHUT BUILDING, New York City

FIG. 156.

reception of enough patients in a single day to half fill the hospital, and its forwarding section was designed to effect the discharge of a like number. Furthermore, the design of these sections was such that when necessary they could be combined so that patients could be either received or discharged through them.

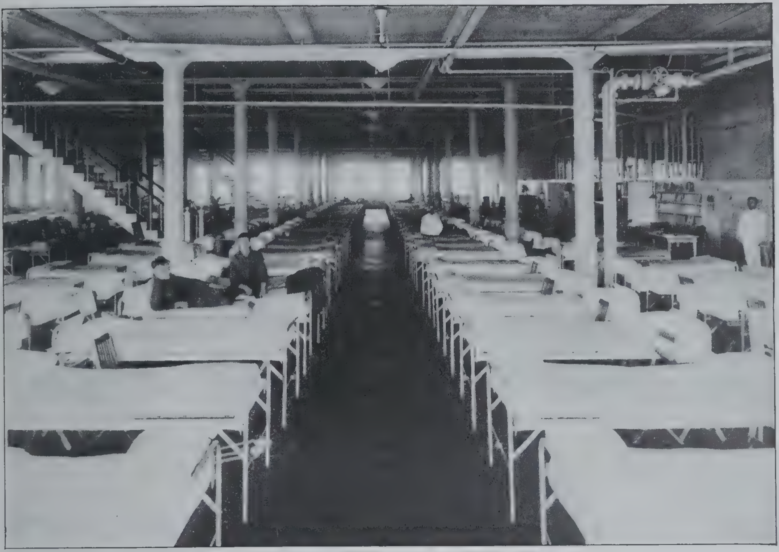


FIG. 157.—One of the large wards at Debarkation Hospital No. 3.

ORGANIZATION.

On July 18, 1918, two officers from the Hospital Division of the Surgeon General's Office, together with an officer from the office of the surgeon, port of embarkation, were directed to effect plans for adapting the Greenhut Building to hospital use. Civilian help was employed, and with a few enlisted men of the Medical Department on duty, the building was rapidly cleaned out and construction work begun. On August 2, 1918, General Orders, No. 58, Headquarters, Port of Embarkation, Hoboken, N. J., was issued, officially designating this hospital as United States Army Debarkation Hospital No. 3.

OCCUPATION OF BUILDINGS.

On the day of the signing of the armistice, the hospital was ready for patients; the first being received November 23, 1918. During the interval, November 11, 1918, to November 23, 1918, preliminary rehearsing and training, regarding the reception and handling of the patients, were given officers and enlisted personnel.

GENERAL EQUIPMENT.

Immediately subsequent to the arrival of the commanding officer of the hospital, July 15, 1918, he caused to be made requisitions for the vast equipment essential for conducting so large an institution as this hospital. Shortly thereafter trucks by the hundreds, loaded with supplies, arrived and the work of outfitting the wards was begun. The hospital wards were large and roomy and they were left open to permit of free ventilation and light. Diet kitchen and linen rooms were made parts of each ward; a gas range and a large ice box were installed in each diet kitchen, with the necessary cooking utensils and serving dishes. Ample shelving space was provided in each linen closet. Large, well-lighted toilet rooms were also installed as a part of each ward, in some of which ventilation was provided by means of vent shafts. These vent shafts were about 2½ feet square, the forced draft being maintained by means of electrically driven fans on the hospital roof.

PERSONNEL.

In December, 1918, after the hospital had been completed, there were over 800 enlisted men on duty. These men were assigned to the following departments of the hospital:

Ambulance service	10	Orderlies (door)	6
Chaplain's office	1	Detachment of patients (office)	5
Barracks	10	Patient's property room	30
Dental laboratory	6	Personnel adjutant's office	30
Detachment office	10	Post exchange	11
Detachment property office	3	Post office	18
Detachment sick call	4	Quartermaster	4
Dispensary	10	Receiving ward	3
Elevators	30	Registrar's office	12
Evacuation office	9	Sanitary fatigue	24
Guards	80	Sergeant-major's office	17
Interpreter	1	Special details	3
Kitchen and mess hall	190	Telephone operators	2
Medical supply and linen room	20	Wardmasters and orderlies (day)	140
Newspaper office	2	Wardmasters and orderlies (night)	90
Office of officer of day	3	X-ray room	5
Operating room	10	Young Men's Christian Association	1
Orderlies (barracks)	20		

There were 166 nurses on duty at the hospital at this time.

HOSPITAL DEPARTMENTS.

SURGICAL SERVICE.

The surgical service occupied the second, third, fourth, and sixth floors of the hospital. The function of the hospital being the separation of debarking patients into groups for transfer to inland hospitals for treatment, the work of the surgical service was not as active as the size of the hospital would seem to indicate, and it consisted mainly in placing the patients in the best possible condition to enable them to travel. It was the established policy of the port surgeon to restrict the number of operations to the minimum, preferably transferring operative cases to base or general hospitals. Ward 6, on the fourth floor, was completely equipped for the Carrel-Dakin treatment of infected wounds, and with Balkan frames for the proper treatment of fractures. Operating rooms were established on the fourth floor.

EYE, EAR, NOSE, AND THROAT.

The eye department of the hospital was organized on December 1, 1918. It was located on the fourth floor, or main surgical floor, of the hospital, and occupied one room of sufficient size to permit doing refraction and other work connected with the eye. The equipment was sufficient for general clinical work on the eye.

The ear, nose, and throat department was likewise organized on December 1, 1918, and was adequately equipped to permit doing general clinical work on the ear, nose and throat.

X-RAY DEPARTMENT.

The X-ray department included 14 rooms on the fourth floor, with a total floor space of 3,520 square feet. An elaborate equipment was installed, current for the machines being supplied by the Edison Electric Co.

The commissioned personnel of the X-ray department consisted of 2 medical officers; in addition there were 5 enlisted men and 1 civilian, a stenographer.

DENTAL DEPARTMENT.

The dental department was first represented by two officers of the Dental Corps, who reported for duty on November 23, 1918. They were assigned an operating room, 13 by 24 feet, on the fourth floor, for which there was a northern exposure. In addition, a small office and supply room, 10 by 12 feet, and directly across a corridor from the larger room, was given to this department. The first two weeks subsequent to their arrival these two officers occupied themselves with the installation of equipment comprising two base dental outfits and one laboratory equipment. The first great influx of patients occurred the latter part of November, during which time a chief of the dental service was assigned, November 25. Under the supervision of the chief of dental service, March 13, 1919, one additional base dental outfit was installed in the main office. An auxiliary office, on the sixth floor of the hospital, was established at the same time, its equipment comprising two base dental outfits. With five operators and five outfits, the activities of the dental service increased materially and was able to cope with the large numbers presented for treatment. On April 3, 1919, oral examination was begun of every patient received in the hospital, this constituting a part of the routine physical examination upon admission. All cases were classified, and in each instance were recorded on an auxiliary form—Form 55 M. D. Patients requiring emergency treatment were given immediate attention; others were given appointment for work to be done later, when necessary.

The greatest handicap noted in the treatment of cases was their short stay at the hospital, which was unavoidable under the circumstances, but nevertheless in many instances patients were transferred before much dental work could be accomplished. The mouths of 22,560 patients were examined by the officers of this department; the number of officers and enlisted men treated was 2,677, necessitating 4,101 sittings; and others treated number 168, for whom 236 sittings were given.

MEDICAL SERVICE.

The fifth floor of the hospital was given over to the medical service, for which there were 11 wards, the total bed capacity of which was 788. Of these 11 wards, 4 were special wards assigned respectively to cases of tuberculosis, pneumonia, diphtheria, and influenza; the remainder being for general medical cases. It was found to be neither desirable nor possible to classify the patients according to diseases in a manner practiced in a base hospital, where wards were smaller and where patients were ordinarily kept for considerable periods for observation and treatment. In Debarkation Hospital No. 3 it was possible to segregate the contagious from the noncontagious only, and practically only four classes of communicable diseases were handled: Tuberculosis, pneumonia, diphtheria, and influenza. Other cases of contagious diseases, especially mumps, scarlet fever, and measles, appeared spasmodically, but they were promptly removed to other hospitals where isolation could be more effectively carried out.

SICK AND WOUNDED DEPARTMENT.

The sick and wounded department concerned itself with the maintenance of an accurate record of all patients in the hospital, as well as a medical record of the personnel on duty. The work of the department dovetailed, in many instances, that of other administrative departments, particularly the personnel office, the office of the detachment of patients, the receiving office, as well as the medical and surgical wards; for, whenever information was required concerning either the medical or personal status of a patient, it was necessary first for the sick and wounded department to ascertain whether the patient concerned was at the time, or any other time, in the hospital. It was, therefore, the purpose of this department to keep an accurate directory in which was given the exact location of each patient in hospital. This was made possible by using a filing system composed of cards, 3 by 5 inches, on which were recorded the name, rank, and hospital location of separate patients. Subsequent to the transfer of a patient from the hospital this card was placed in a "dead file." The cards were made immediately after the admission of a patient to hospital and contained pertinent abstracts from the clinical brief, or Form 55*a*, Medical Department, the first sheet of the patient's clinical record. A carbon copy of Form 55*a* was kept on file, in this department, for each patient in hospital. At the end of the day, after the patients, who had been admitted, had had cards made, a nominal list of their names was prepared. This list showed, in addition to the names, the rank and organization, location in hospital, and the name of the transport from which the patients had been received. Copies of the nominal list were distributed to the following officers: Two copies to the sick and wounded department, headquarters, Port of Embarkation, Hoboken; one copy to the post office of Debarkation Hospital No. 3; one copy to the personnel officer; one copy to the hospital representative of the Red Cross; one copy to the hospital newspaper, *Home Again;* one copy to the patients' property office; and one copy filed with retained records.

While patients were in hospital a sick and wounded register was kept which consisted of a card for each patient. When patients were transferred from the hospital, a list, similar to the nominal list of admissions, was compiled containing the names of all patients evacuated during the day. Copies of this list were distributed in exactly the same manner as were those showing admissions, and the files of the department were adjusted to accord with the changes. On the completion of each case, the clinical record, which had been in the keeping of the ward surgeon, was completed and filed in the sick and wounded department. This clinical record was frequently referred to to obtain information regarding a patient's condition even after he had left hospital. Field medical records, which accompanied the patients from overseas, were also handled in this department, when patients, for whom they had been prepared, were transferred.

The administrative details, connected with the transfer of patients with communicable diseases from Debarkation Hospital No. 3 to an isolation hospital of the port, were effected by this department, as were those concerning the transfer of patients from ward to ward within the hospital.

A regular numerical morning report of the patients in hospital was compiled each morning, copies thereof being transmitted to the news officer, the Red Cross representative, the chief nurse, and the adjutant. A weekly report was made every Friday morning for the information of the surgeon of the port. This weekly report included data regarding the number of personnel of the hospital taken sick during the week concerned, grouped by diseases. The monthly sick and wounded report, consisting of a separate card for each patient treated during the previous month, was made and forwarded to the Surgeon General not later than the 5th of the month.

The work of the sick and wounded department required the constant services of 12 enlisted men and 4 civilian typists.

The total number of admissions recorded is 36,880, of which 35,850 were patients received from overseas. The largest number of admissions, on any one day, was 2,235 on March 24, 1919, received from one transport, steamship *Artigan*. The largest number of evacuations in one day was on March 25, 1919, when 1,458 patients were transferred to inland hospitals.

PROCESS OF ADMISSION.

Usually, when patients were received at the hospital, they came in large numbers from the debarkation piers in ambulances. The ambulatory patients were met at the front door of the hospital by orderlies who carried the patients' hand luggage, and who escorted the patients to chairs and benches located in the rotunda on the main floor of the hospital. On these occasions members of the American National Red Cross were requested to assist in seating the patients pending their admission to hospital. In the routine of admission, the patient was conducted by an orderly to the first room of the receiving ward, where Form 55 A, Medical Department, was prepared in triplicate, as well as an evacuation card. At this point, each patient was requested to deposit any valuables, in his possession, with an officer especially detailed to receive them, a receipt being furnished for any valuables so deposited. In the event a patient had valuables, which he did not desire to deposit for safekeeping, he was required to sign a statement showing he had been given the opportunity, the advantage of which he refused to take. From this room, the patient passed into another, fitted with benches, where he removed all his clothing, being assisted in this by an orderly when it was necessary; and passed into an adjoining room, in which he was submitted to an inspection by medical officers, the purpose of which was to determine the nature of his injury or illness and the possible existence of vermin infestation and communicable disease. In this room his assignment to a ward of the hospital was made, a notation of the ward to which he had been assigned being made on his Form 55 A. His clothing was examined, and if found to be louse infested, was subjected to a delousing process; likewise, if the patient was found to be louse infested, he was deloused in a room provided especially for this purpose. The clothing was checked and, after being deloused, was placed in specially constructed bins in the patients' property room, the patient retaining a duplicate check. When the patient was not found to be vermin infested, his clothing was checked and sent to the sterilizing plant in the basement, whence it was returned, as soon as possible, to the clothing bins, there to be left until needed. From the physical inspection room, the patient passed to the shower-bath room, where he was required to bathe, attendants being present to afford assistance when necessary. Following his bath, the patient was given slippers, a clean suit of pajamas, a pair of socks, and a bathrobe, after which he passed out into a main corridor through the only possible exit, where a throat culture was obtained by one of the laboratory staff, and where a dental officer made a mouth inspection to determine the necessity of immediate dental treatment. From this point an orderly conducted the patient to one of the many elevators and to the ward to which he had been assigned. Arriving at the ward, the patient was again examined by the ward surgeon. The patient's evacuation card, which he had brought with him from the admission room, was then completed and sent to the evacuation office.

The process of admission required 45 minutes for each patient; and, during the admission of a large number, the detail of the following personnel: Thirty officers, 15 typists, 3 clerks, 70 orderlies, 30 clothing checkers, 5 laboratory assistants, and 4 dentists.

Having arrived at his designated ward, the patient was assigned a bed, and, his physical condition having been determined to warrant it, he was given the liberty of the hospital. Within 24 hours after having entered the hospital, the patient's uniform had been sterilized and reclaimed by him. In the meantime, each ward surgeon had made requisite clinical notations on the patient's clinical record and field medical card. The ward surgeon, deeming it advisable and the patient's condition permitting it, the commanding officer, detachment of patients, was authorized to issue passes to patients after their first 24 hours in hospital. These passes permitted patients to leave the hospital between the hours of 10 a. m. and 5 p. m. regularly, an additional pass being required when they desired to leave the hospital in the evening. Before being granted this freedom, however, it was required that each patient going on pass be paid in full. This was accomplished by obtaining the patient's affidavit, on which was set forth information as to when he embarked overseas, when he was last paid, all deductions for allotments and insurance, and his rate of pay. From these data a pay roll was accomplished and the patient paid in full.

EVACUATION DEPARTMENT.

The steps necessary to be taken to effect the transfer of a patient from the hospital to other hospitals were begun, immediately on admission, with the preparation of the evacuation card. On this card were noted a patient's name, rank and organization, date of admission to this hospital, ward and floor to which assigned, home address of the patient, and a general diagnosis. This card was sent to the evacuation office immediately after a patient reached the ward, and the information it contained was certified to by the president of the physical examining board. In the evacuation office, these evacuation cards were arranged according to the States, as indicated by the home address of the patients, and were so classified that a patient might be transferred to the hospital nearest his home. Numerical and nominal lists of the hospitals designated were then prepared and forwarded to the office of the port surgeon. These lists gave information regarding the number and names of the patients, their respective physical conditions, and the hospital to which they were to be sent. They also contained sufficient data to indicate required professional attention en route, and whether the patients should be assigned upper or lower berths on the hospital train. When the lists were completed, duplicate stubs were prepared on which were noted the names, rank and organization, ward and floor of the hospital to which the patient was assigned, and the destined hospital; the stubs being then filed according to destinations of patients. When the nominal lists were sent to the office of the port surgeon, requests for travel orders or special transportation accompanied them; and when the travel orders were received from the headquarters of the port of embarkation, each patient listed was given a number which was inscribed on one of the stubs described, the stub in turn being tied to a button of the patient's blouse. The retained stub in the evacuation office was given a similar number. Copies of the travel orders were distributed to the various departments of the hospital; notice of the evacuation being sent to ward surgeons concerned, apprising them the hour when the patients to be transferred should secure breakfast and their valuables. The mess officer was notified to enable him to have breakfast served in ample time prior to the departure of the patients. When the transfer had been consummated, the field medical card, or a transfer card, was forwarded to the hospital for which the patient was destined.

At the hour of evacuation, all patients, selected for transfer to a particular hospital, were placed in the charge of an escort assigned to accompany them. A check of the patients was then made and a receipt for them obtained from the officer in charge of the escort. Evacuation cards of patients who, for one reason or another, failed to depart at the time designated were put aside for reclassification on the next list; the names of the absentees were furnished the adjutant, the commanding officer, detachment of patients, the registrar, and the personnel adjutant.

THE MESS DEPARTMENT.

The hospital kitchen and mess hall were located on the second floor of the Greenhut Building, occupying all the space on the east side of the rotunda. The mess hall was adequately lighted by large windows on both the Eighteenth Street and Nineteenth Street sides, and large motor-driven exhaust fans in four of the windows maintained the air of the room in a constantly satisfactory condition.

The mess hall was divided into halves by a central corridor, which extended from the entrance doors at one end to the steam serving tables at the other.

The corridor was divided into four aisles, each aisle corresponding to a door at the entrance, the two inner aisles being used for incoming patients and the outer ones for outgoing patients. Midway of the mess hall and adjoining the outer aisles of the central corridor were two dish-washing rooms, each 20 by 20 feet, containing a dish-washing machine. These rooms had two intake windows, one at each end, through which the used dishes were passed by the patients, each of whom carried his table utensils to the dish-washing room as he left the mess hall. Beyond the central corridor, on each side, were the spaces for the dining tables, the tops of which were made of three boards, the middle board being removable to permit their sanitary maintenance. Fixed benches were provided the tables. There were 102 of these tables in the mess hall, each accommodating 16 patients, providing a total seating capacity of 1,632.

The kitchen was fully equipped with modern labor-saving devices, all of the cooking utensils consisting of heavy aluminum. In addition to the usual tables, chopping blocks, racks, etc., the equipment composed the following articles: Twenty gas ranges, set back to back, in two batteries; two 60-gallon, ull jacketed stock kettles; five 80-gallon, two-thirds jacketed stock kettles; five 35-gallon vegetable boilers; three 3-compartment vegetable steamers and boilers; four 60-gallon coffee urns; one whipped-cream machine with full equipment; one vegetable peeling machine; one meat chopper; one fish bowl; two dish-washing machines; one ice-breaker; one freezer and brine tank; one bread slicing machine; three steam tables, each 12 feet long and having eight containers; one meat slicing machine; one hardening room, with zero temperature, for the ice cream plant; and one cold storage plant for meats, etc., cooled by the refrigerating plant in the hospital basement.

The mess hall was conducted on the cafeteria system, and all able-bodied ambulatory patients were served at the double steam table placed across the upper end of the mess hall. Ambulatory patients who were unable to serve themselves because of physical disability had their meals served them at the mess tables. Bed patients were served in the wards from especially designed mess carts. As the ambulatory patients completed their meals they carried their used eating utensils by the dish-washing rooms, through the intake windows of which they passed them. The cleaned and dried dishes were taken as they emerged from the dish-washing machines, and were passed out a third window onto a hand truck in which they were conveyed back to the steam serving tables; and thus a constant circuit was maintained from the steam tables to the washing room, thence back again to the serving tables.

The cafeteria serving system proved to be so expeditious that, even when the hospital was filled to capacity—4,000 patients—it seldom happened that all the dining tables were required, as there was a constant stream of incoming and outgoing diners, and the same table was used over and over again as separate seats became available. The number of men served at each steam table was about 25 per minute, or 1,500 each hour.

Adjoining the general kitchen was the diet kitchen, wherein there was a trained corps of dietitians, who prepared all the special diets for the hospital, distributing them in the mess carts.

In the general kitchen the food for the duty personnel of the hospital was prepared. This was carried to the detachment mess hall, located on the second floor of the adjoining Cluett Building, through the opening made in the intervening wall, and served in a manner similar to that just described.

Adjoining the office of the mess officer, on the mezzanine floor of the Greenhut Building, were the butcher shop, the vegetable and other rooms, fitted with the necessary ice boxes and refrigerating apparatus.

The commissioned personnel of the mess comprised 3 officers, and the enlisted personnel numbered about 204, among whom there were 36 cooks divided into 3 shifts, one working at night, the others alternating in the day work. During the fiscal year ending June 30, 1919, the mess officer expended $452,444.46 for food. The number of meals served was 2,170,527.

PATIENTS' PROPERTY.

The property of all the patients in hospital was cared for by the officer in charge of patients' property, with the exception of valuables which were deposited for safe-keeping in the hospital safe under the care of an especially detailed officer. The patients' property department was made responsible for the issuance of new clothing to patients who desired them. New clothing of an approximate value of $800,000 was thus issued; each transaction was entered on the patients' individual clothing and equipment record and was receipted for by them on Quartermaster Form 165.

HOSPITAL ANNEXES.

The post exchange was established November 27, 1918, and equipped with the usual supplies found in a post exchange. Connected with it were a barber shop, containing 11 chairs, a shoe-shining department with 8 chairs, a tailor shop, and a photograph gallery.

Much credit is due the Red Cross for the exceptionally fine morale of the patients in this hospital. A well equipped recreation room was conducted by its representatives for the entertainment of the patients. Each night at 7.15 an entertainment was given in the Red Cross theater, with a seating capacity of 1,600. A recreation bureau was maintained for providing the patients with theater tickets, bus rides, dinner parties, etc. Allied with the Red Cross was the American Library Association, with a well-equipped library of over 20,000 books. The Library Association also distributed books and the various popular magazines to patients who were confined to bed.

Statistical data, United States Army Debarkation Hospital No. 3, Greenhut Building, New York, N. Y., from August, 1918, to July 15, 1919, inclusive.[a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
August		3			3							3					11
September		47			47	14						25	1		7		52
October	7	65		1	73	46						21	1		5		150
November	5	66	4		75	50	1					16		4	4	19	199
December	8	91	120		219	70	7					66		76		1,423	144
1919.																	
January	76	161	251		488	111	19					180		177	1	4,035	50
February	178	198	307		683	151	10					336		186		5,177	31
March	186	250	292		728	180	6					320		222		5,926	36
April	222	205	310		737	188	14	2				302		230	1	7,650	46
May	231	110	1,364		1,705	1,142	10		1			379		173		6,651	19
June	173	64	1,211	1	1,449	1,176	15					194	1	63		4,982	19
July	63	13	14		90	12	13					65				1,374	

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1919.				
January		42		42
February	3	58		61
March	5	79		84
April	5	80		85
May	6	79		85
June	5	79		84
July	5	79		84

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q.M.C., etc.).	Total.	Medical Department.	Miscellaneous (Q.M.C., etc.).	Total.	
1918.								
August	2	1	1	4	63		63	
September	5	1	1	7	139		139	
October	15	2	1	18	167		167	
November	60	2	2	64	650		650	57
December	92	2	2	96	853	35	888	166
1919.								
January	90	6	3	99	960	64	1,024	274
February	91	6	4	101	880	106	986	261
March	90	6	4	100	880	99	979	262
April	97	5	4	106	913		913	270
May	87	5	4	96	877		877	273
June	64	4	3	71	708		708	270

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures, above, do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., "E. E." Misc. Div.)

CHAPTER XXIV.

EMBARKATION HOSPITAL, NEWPORT NEWS, VA.[a]

LOCATION.

The embarkation hospital at Newport News, Va., was located to the east of the city of Newport News, along the shore of Hampton Roads and adjacent to Camp Stuart on the northeast, the total area occupied by the hospital being in the neighborhood of 35 acres. As 19 of the wards of the hospital were constructed along the north shore of Hampton Roads, within a few feet of the water's edge, a beautiful outlook was afforded. The advantages of the location, however, were somewhat offset by the presence of Salters Creek, a small tidal stream which skirted the boundary of the hospital grounds and created a considerable expanse of lowland marsh. The creek was also disadvantageous in that it was the means of conveying a large amount of sewage from the northeastern portion of the city of Newport News; and the marshes required a great amount of drainage and filling in in order to prevent them from becoming a serious menace by reason of the favorable conditions they presented for mosquito breeding.

The terrain was flat and the country open for the greater part of the hospital site. This ground had formerly been used for a truck garden and was in a high stage of cultivation. Its soil was of sand and as the hospital site was exposed there was a resultant high degree of discomfort from flying dust in dry weather, ameliorated somewhat by subsequent planting of grass and flowers.

The climate was moderate in winter and the heat of summer was tempered by breezes.

Good roads of concrete or macadam ran directly to the hospital, making for ease of access from the camps and the city of Newport News, and a main line of the street-car system passed directly through the northeast corner of the hospital grounds.

BUILDINGS.

Construction of the hospital continued through five projects. It was originally designed to accommodate about 250 beds, and consisted of 8 wards with the necessary kitchens, mess halls, quarters, latrines, and storehouses, but before they were ready for occupancy it became necessary to increase the number of wards to 16. Six wards were of the standard one-story type, designed for base hospitals, with screened porches on the front and one side. The second addition to the hospital was begun early in the spring of 1918, and consisted of three two-story barrack wards, one of wood and two of hollow tile

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[a] The statements of fact appearing herein are based on the "History, Embarkation Hospital, Newport News, Va.," by Maj. W. C. Rucker, U. S. P. H. S., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

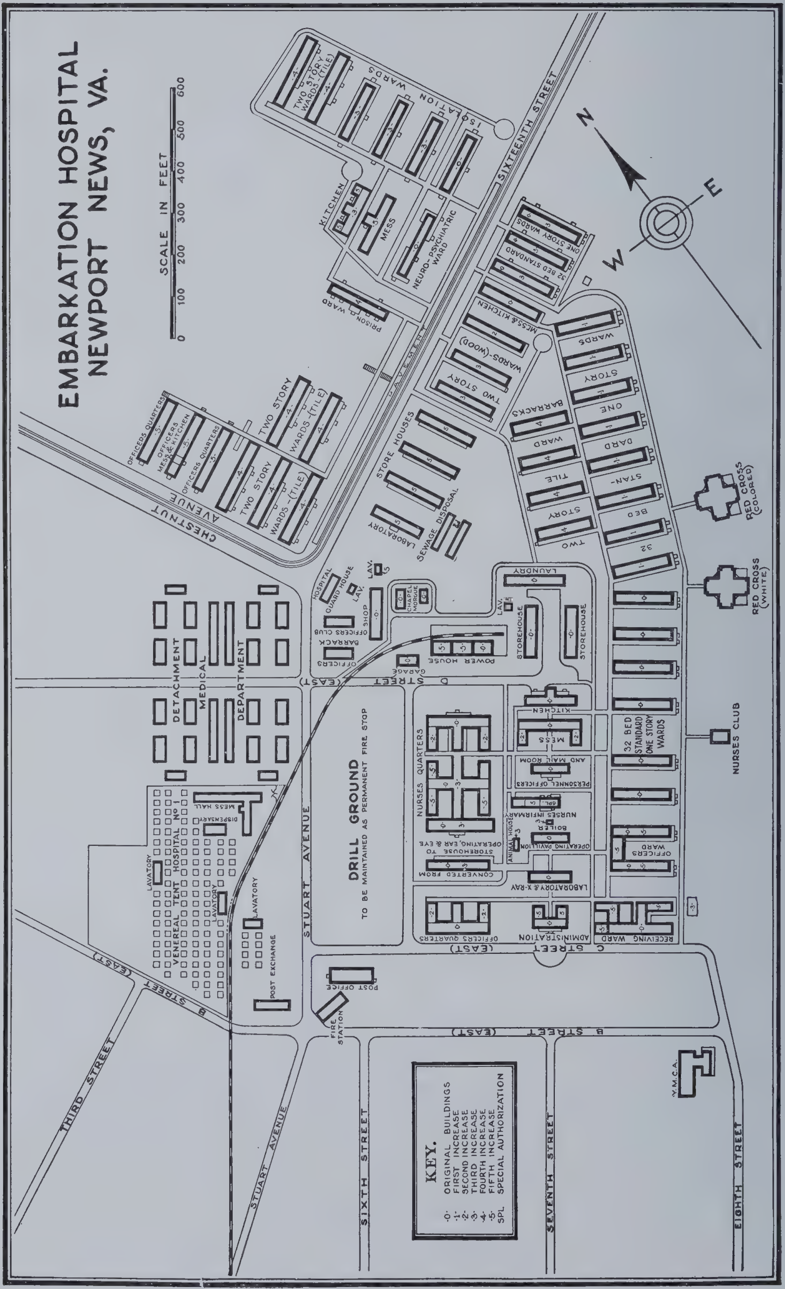
EMBARKATION HOSPITAL
NEWPORT NEWS, VA.
SCALE IN FEET
0 100 200 300 400 500 600
N
E
W
KEY.
-0- ORIGINAL BUILDINGS
-1- FIRST INCREASE
-2- SECOND INCREASE
-3- THIRD INCREASE
-4- FOURTH INCREASE
-5- FIFTH INCREASE
SPL SPECIAL AUTHORIZATION
SIXTEENTH STREET
PAVEMENT
CHESTNUT AVENUE
STUART AVENUE
D STREET (EAST)
C STREET (EAST)
B STREET (EAST)
THIRD STREET
SIXTH STREET
SEVENTH STREET
EIGHTH STREET
ISOLATION WARDS
TWO STORY WARDS (TILE)
KITCHEN
MESS
NEURO-PSYCHIATRIC WARD
PRISON WARD
ONE STORY WARDS
32 BED STANDARD
MESS & KITCHEN
TWO STORY WARDS-(WOOD)
TWO STORY TILE WARD BARRACKS
32 BED STANDARD ONE STORY WARDS
RED CROSS (COLORED)
RED CROSS (WHITE)
NURSES CLUB
OFFICERS QUARTERS
OFFICERS MESS & KITCHEN
TWO STORY WARDS-(TILE)
STORE HOUSES
LABORATORY
SEWAGE DISPOSAL
HOSPITAL GUARD HOUSE
LAV.
SHOP
CHAPEL MORGUE
LAUNDRY
STOREHOUSE
OFFICERS CLUB
OFFICERS BARRACK
GARAGE
POWER HOUSE
MEDICAL DETACHMENT DEPARTMENT
DRILL GROUND
TO BE MAINTAINED AS PERMANENT FIRE STOP
NURSES QUARTERS
KITCHEN
MESS
PERSONNEL OFFICERS AND MAIL ROOM
NURSES INFIRMARY
BOILER
ANIMAL HOUSE
OPERATING PAVILLION
OFFICERS WARD
CONVERTED FROM STOREHOUSE TO OPERATING, EAR & EYE
LABORATORY & X-RAY
OFFICERS QUARTERS
ADMINISTRATION
RECEIVING WARD
VENEREAL TENT HOSPITAL No 1
MESS HALL
DISPENSARY
LAVATORY
POST EXCHANGE
POST OFFICE
FIRE STATION
Y.M.C.A.

FIG. 158.

and stucco construction. At the same time, the original buildings designed as barracks for the detachment of the Medical Department were converted into wards, made possible by utilizing camp barrack buildings for barracks for the hospital personnel. The third addition to the hospital was started early in the summer of 1918, and comprised three isolation wards, six two-story barrack wards and five two-story standard wards. In addition to these wards, one prison-ward building, one large kitchen and mess hall, and additional nurses' quarters were developed by the conversion of the buildings originally designed as storehouses; and one building was especially designed for the housing of the activities of head surgery, the dental department, and the department of eye, ear, nose, and throat.

The fourth addition was started before the completion of the third, in the midsummer of 1918, and consisted of the development of the necessary utilities to serve the increased capacity of the hospital. Additional officers' quarters, storehouses, and the conversion of two standard one-story wards into a building for the accommodation of patient officers were included. This last phase of construction was completed about January 1, 1919.

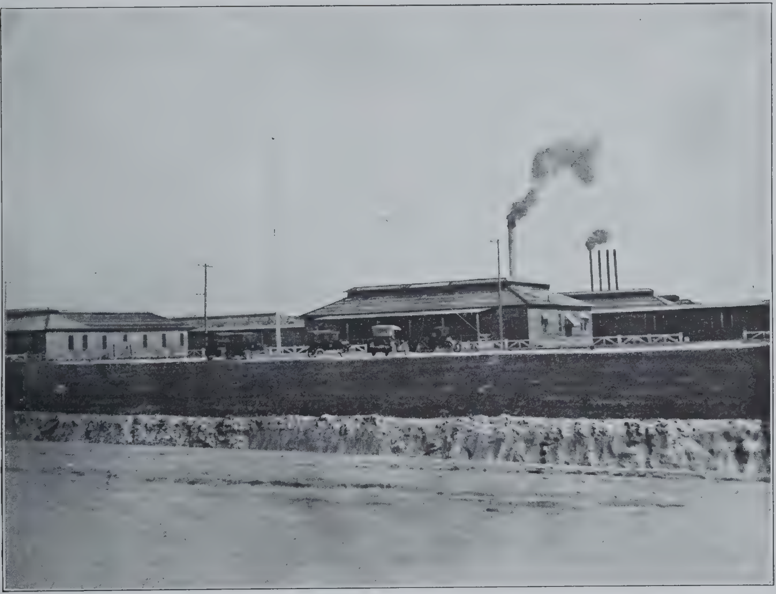

FIG. 159.—Headquarters, Debarkation Hospital, Newport News, Va.

A specially designed laboratory, a large two-story hollow tile and stucco building completely equipped for this special purpose, was erected during the winter of 1918. Early in the spring of 1918 a detention camp for venereal disease was constructed in block 17 of Camp Stuart, to the northwest of the hospital grounds. This detention camp was composed of 103 tent frames, a large mess hall, and a treatment house, the entire camp being surrounded by an 8-inch wire-mesh fence.

During the fall of 1918 two more camps of a similar nature were designed, and these were erected on a tract of leased property to the west of Camp Stuart, and extended from Hampton Roads northward for one-half mile. Construction of these two later camps was completed early in December, 1918.

The bed capacity of the hospital at its completion was 1,754 in the hospital proper, and 1,800 in the three venereal camps, making a total bed capacity of 3,564.

In a general way, the main line of wards extended directly along the shore of Hampton Roads; and the buildings used for administrative purposes, mess hall, quarters for officers, quarters for nurses, storehouses, etc., extended inland from the wards, all buildings being connected with covered corridors.

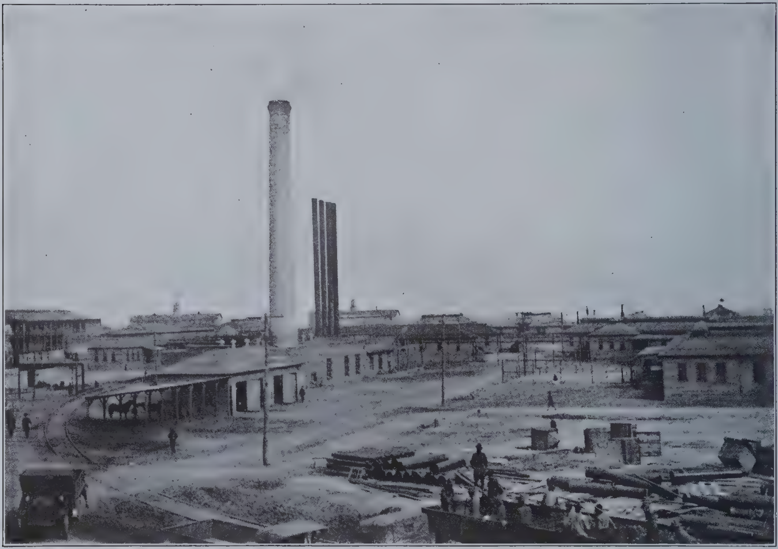

FIG. 160.—General view of Embarkation Hospital, Newport News, Va., showing central heating plant.

OCCUPATION OF BUILDINGS.

The first group of overseas patients arrived on the U. S. S. *George Washington,* on January 18, 1918, and on January 21, 1918, the hospital proper was opened, but the barracks in block 2 of Camp Stuart continued to be used for hospital purposes until finally closed and turned back to the camp authorities on April 2, 1918.

HOSPITAL WATER SUPPLY.

The hospital water supply was identical with that of Camp Stuart and the city of Newport News; the supply for Camp Stuart was taken directly from the city mains. Three large storage tanks located near the entrance to the camp guaranteed an adequate reserve and sufficient pressure for emergencies and for fire protection.

SEWAGE.

The sewage from the hospital drained into the main sewer of Camp Stuart, through which it was carried to two septic tanks, the affluent flowing into Salter Creek and then to the James River. The septic tanks were of sufficient size to allow for five to six hours settling time, which was adequate to render the affluent free of harmful organic matter. Surface drainage of the grounds was maintained by ditching and by storm sewers which emptied from one main outlet directly into the James River.

HOSPITAL GARBAGE DISPOSAL.

Garbage and other wastes were separated into the following classes: Fats, bone, paper, bottles, rope, tin cans, and other garbage. Most of this waste was turned over to the reclamation service, the remainder being disposed of by a private concern.

LAVATORIES AND BATHS.

All the wards except the temporary wards had separate bathrooms with shower and tub baths, washbowls, urinals, and closets. The temporary wards, venereal tent hospital, and barracks for enlisted personnel were equipped with standard latrines adapted for camp use. These latrines furnished toilet facilities and were also fitted with shower baths and the necessary apparatus for heating water. All of the hospital baths and latrines were fitted with modern plumbing and drained into the general sewerage system of the camp.

HEATING.

The hospital was steam heated from a central plant, which also furnished hot water for the various wards and kitchens by a high and low pressure system. The plant was equipped with 10 boilers. There was in addition a separate smaller plant for maintaining the sterilizers and for heating the operating rooms in case of emergency.

HOSPITAL LIGHTING.

The buildings and the grounds of the hospital were lighted by electricity, which was obtained from Newport News. For lighting purposes this was adequate, but much difficulty was encountered in securing the current necessary for the successful operation of the X-ray apparatus.

HOSPITAL KITCHEN AND MESS.

The hospital mess comprised three separate establishments: One for officers, one for nurses, and one for the patients and enlisted personnel. The officers' mess consisted of two kitchens and mess halls, each of which had its own organization and management. The nurses' mess comprised one kitchen and mess hall, located in the nurses' quarters, and was operated under the supervision of the chief nurse. For the feeding of the enlisted personnel and patients seven kitchens and mess halls were maintained under the direction of the hospital mess officer. Five of these kitchens were of the standard type, built for the various camps and cantonments, for the feeding of troops, two of them being used for feeding the detachment of enlisted men, and three were connected with the venereal camp hospital and the temporary wards, where the patients were suffering only from such ailments as would not prevent their going a short distance for their meals. The remaining two kitchens were for feeding patients at the hospital proper. One of these, a smaller kitchen originally designed for the mess of the detachment, prepared only regular diets for patients from wards 14 to 19. All of the other cooking was accomplished at the main kitchen, which was located centrally and was equipped with modern kitchen appliances, such as steam boilers, ranges, and dish-washing machinery. One of these rooms was entirely devoted to the preparation of special diets, with a trained dietitian in charge. The main storeroom for food supplies and for meats was also located at this place. Foods to be served in the wards were conveyed from the kitchen in food carts. Each ward had a small diet kitchen, equipped with an electric stove and steam table, where the food received from the main kitchen could, if necessary, be reheated and served. Easily cooked articles, such as eggs, were prepared in these ward kitchens, and cutlery and dishes for use in the wards were also cleaned and stored there. An additional kitchen and mess hall to be used exclusively for wards containing patients suffering from contagious diseases was later constructed.

FIG. 161.—Interior of power and heating plant, Embarkation Hospital, Newport News, Va.

HOSPITAL LAUNDRY.

Although a building was erected for use as a hospital laundry, it was never placed in operation because of the impossibility of obtaining essential machinery. A large steam sterilizer for the sterilization of clothing and bedding occupied one end of this building, the remaining space being used largely for storage purposes. The need of a laundry for the hospital was felt greatly, as the laundry at Camp Stuart was often overtaxed and therefore unable to to render the prompt service necessary to meet hospital demands.

QUARTERS.

Officers on duty at the embarkation hospital were furnished quarters at the hospital. Two buildings were in use for this purpose and were known as officers' quarters No. 1 and No. 2. Officers' quarters No. 1 was the building originally designed for housing the officers, but, although additions were made later, it proved entirely inadequate, and on April 1, 1918, officers' quarters No. 2 was established in the barracks originally occupied by officers of one of the Infantry regiments. The hospital then had quarters for the accommodation of about 90 officers. The buildings were partitioned into rooms, each of which was occupied by two officers. Bathrooms and mess halls were located in each building. A four-room cottage pleasantly located on the back, overlooking Hampton Roads, was set aside for quarters for the commanding officer of the hospital.

FIG. 162.—Nurses' recreation building. Embarkation Hospital, Newport News, Va.

The rapid growth of the hospital, requiring, as it did, increased quarters for officers, likewise soon led to a shortage of quarters for nurses. As originally planned the nurses' quarters were identical in size and construction with the officers' quarters and did not permit of further additions. Consequently, authority was requested and granted to make the changes necessary to convert storehouse No. 1, located near by, into a suitable nurses' quarters. This was done and they were occupied on July 6, 1918. Storehouse No. 2 was transformed into quarters with an accommodation of about 150 nurses. The nurses' quarters were very comfortable and well heated. A recreation house for the nurses was supplied by the American Red Cross and was completed in October, 1918. It was located in a very desirable place on the water front and was a source of great pleasure and usefulness to the nurses.

HOSPITAL STOREHOUSES.

There were two large storehouses connected with the hospital. One of these storehouses was used for the storage of Medical Department supplies and one for the storage of quartermaster property. They contained the offices of the medical supply officer and the quartermaster, respectively. Storage space, however, was entirely inadequate and it was necessary to use temporary structures for this purpose.

FIRE PROTECTION.

At its inception the embarkation hospital had practically no protection against fire. Four telephones were installed in November, 1917, providing the only means of communication through Camp Stuart to the nearest fire company, a municipal company on Twenty-fifth Street. No additional telephones were installed until January 1, 1918, when an order was issued causing the installation of a switchboard and 20 telephones. In December, 1918, owing to the rapid growth of the hospital, a new switchboard to accommodate 100 telephones was authorized, although this was not installed until April, 1919. While not comparable in rapidity and accuracy with fire-alarm boxes for the report of a fire to the engine house, the telephone system, until April 15, 1919, was almost the only communication with fire-engine companies. In January, 1918, Engine Company No. 3, consisting of 15 men, was recruited from among the firemen of the larger cities and placed in commission at Camp Stuart on the 25th of that month. Engine Company No. 4, in Camp Stuart, recruited from post organizations, did not go into commission until September, 1918. The first fire-alarm boxes were installed but their installation was not completed until September 28, 1918. They were placed at long intervals and were completely omitted from the isolation and Chestnut group of buildings.

In the fall of 1918 the constructing quartermaster began work on the roads and fire trails around and through the hospital. Previous to that time two tarvia roads had been built, one in front of officers' quarters, administration building, and receiving wards, and the other running past the power plant and nurses' quarters to storehouses Nos. 4 and 5. Necessarily, in muddy weather, a great portion of the hospital could not be reached by the heavy fire trucks, so beginning in October, 1918, ramps were cut across all corridors and tarvia fire trails were built, thus making fire hydrants easily accessible to fire-fighting apparatus. One fire trail was greatly delayed in the building because of the hydraulic fill. In place of the tarvia road over this fill, a roadway of 2-inch lumber was built from the laundry, thus making the fire hydrants in that section easy of access. In January, 1918, three hose reels were installed by the constructing quartermaster, one on the corridor of ward 6, one at ward 16, and the other at officers' quarters No. 2.

In January, 1918, seven months after the opening of the hospital, the first chemical fire extinguishers were put in, numbering about 70. Six months later 50 additional extinguishers were obtained, but it was not until March, 1919, that the hospital was able to secure chemical carts, at which time 14 40-gallon pumps were delivered and placed advantageously about the corridors. The full equipment in April, 1919, comprised 309 3-gallon extinguishers, 14 40-gallon chemical trucks, and 3 hose reels, complete.

Until October, 1918, one 6-inch main from Camp Stuart furnished the hospital with water. In this month an additional 8-inch main was connected with the hospital system, the two mains giving ample water supply when Camp Stuart was not full of troops, but when many water outlets were in use those farthest from the main could not get water at all. Camp Stuart itself had but one 12-inch main until April, 1919, when an additional 16-inch main was laid.

In April, 1919, the Aero Fire Alarm Company completed the installation of the fire-alarm system. This system was both automatic and mechanical. The automatic part consisted of circuits of one-sixteenth-inch copper tubing, terminating in unit sets of fire-alarm boxes. This tubing, strung over the ceilings of rooms and corridors, contained air at atmospheric pressure which, expanding when subjected to heat, vibrated a delicate diaphragm releasing a drop, thus completing the circuit to the transmitter which, in turn, transmitted the current to all the devices that rang the gongs and punched the recording tapes at all such installed apparatus. An automatic interlocking device prevented any confusion resulting from simultaneous alarms, one alarm being held until the other was completed, allowing an appreciable interval, when the second alarm was released and recorded by gongs and tape. An automatic device recorded the air pressure so as to prevent false alarms resulting from a sudden rise in temperature due to natural causes.

In the embarkation hospital the automatic-alarm system comprised 62 circuits, using approximately 95,000 feet of tubing. The whole hospital was thoroughly wired, and the 62 unit sets were placed one in each ward and at frequent intervals elsewhere about the hospital. Gongs were placed in the home of the commanding officer, in the administration building, in the main mess hall, in officers' quarters No. 1, and in the nurses' quarters. Punch registers, which accurately recorded the number of the box sending in the alarm, were placed in the administrative building and in the mess hall.

So far as equipment went, the embarkation hospital was not completely protected until after the hospital had been in service 17 months. During the construction period the heaps of débris from carpenter work constituted a dangerous fire hazard. "No smoking" signs were posted and armed guards enforced the order so far as it was possible. A fire patrol was on duty day and night and all persons working or living in the hospital were warned that extreme caution was necessary to prevent the start of a fire, on account of the hazard existing in the wooden structures of which the hospital was composed. The detachment, Medical Department, was drilled three times a week in the mechanism of minor fire-fighting appliances, and all equipment was inspected daily.

ORGANIZATION.

In the discussion of the general hospitalization problem of the port of embarkation, Newport News, mention was made of the difficulties incident to the acquisition of adequate hospital facilities during the year 1917, and the necessity for the use of converted barracks buildings pending the completion of the specially constructed embarkation hospital. Thus, though troops were hospitalized in the converted barracks as a temporary expedient, an organization was affected to permit of their proper use as a hospital in November, 1917. As a matter of fact, however, the permanent organization of the hospital dates from the opening of the main hospital group, January 14, 1918.

FUNCTION.

As its name implies, the original intention for the use of this hospital was as an embarkation hospital for the main purpose of caring for the physically incapacitated eliminated from troops embarking for overseas; but, as it was the earliest large hospital opened at Newport News, and, throughout, was the only hospital at the port possessing facilities for the care of contagious disease cases, its operation in a dual capacity was forced: combining the functions of base hospital, serving the personnel on duty at the port, with those of an essential embarkation hospital. Later, after the armistice, when the human tide turned and the overseas sick and wounded began to be debarked in great numbers, the embarkation hospital had its rôle partly reversed and it became the principal debarkation hospital at the port of Newport News.

ADMINISTRATION.

The threefold phase of the character of work performed at the hospital necessitated that its administrative functions be so arranged as to readily meet the needs of the varying situation. It was practically impossible to develop any immediate relations between the hospital and the various regimental infirmaries, such as those which existed at the large cantonments where the organizations were more permanent.

The troops arriving at the port were given a medical examination before their departure, and it frequently happened that large groups of patients were sent to the hospital only a few hours, or at best but a few days, before the organization to which they belonged embarked. Regimental surgeons and camp commanders were pressed with the business of getting the troops aboard, which added to the administrative difficulties in the hospital. It necessitated an elastic organization which could meet the routine needs and at the same time be prepared for the rapid reception and evacuation of large numbers of sick and wounded. The vast amount of paper work comprehended in the admission, classification, payment, and transshipment of several hundred patients in a single day made it necessary to correlate the functions of the hospital so that when occasion demanded work could be performed at top speed without maintaining an extravagantly large office force between peak loads. This force was kept at a minimum until the receipt of large numbers of overseas sick and wounded made enlargement imperative, to permit the speedy handling of patients who had to be received, classified, and evacuated rapidly, in order to prevent permanent congestion of the port.

The organization of the hospital was the result of a series of evolutionary changes, and while it was, in some respects, quite different from the average base hospital, it may be stated that its organization scheme was so successful as to warrant its adoption, with very slight modifications, for any future hospital for embarking and debarking troops.

All of the functions of the hospital were grouped under the commanding officer, with the executive officer and adjutant as intermediaries.

EXECUTIVE OFFICER.

In a broad way the executive officer handled administrative details, which included sanitation, discipline, prisoners, morale, intelligence, inspections, fire prevention, construction, utilities, the distribution of labor, and the coordination of nonmilitary activities.

Distribution of Labor.

The distribution of labor was effected through a permanent labor cadre to each department, the labor in excess of actual needs being thrown into a labor pool which was used for outside police and similar duties. From this pool labor was assigned to the various departments as need arose, and when an emergency ceased it was returned to the pool.

Nonmilitary Activities.

In order to harmonize the various organizations of the nonmilitary activities, they were placed under the direction of the executive officer. The provisions of General Orders, No. 17, War Department, 1918, gave the fullest military recognition to the personnel of the American Red Cross, and the detachment of officers from this organization were thereafter attached to the commanding officer of the hospital, who issued orders whereby the senior Red Cross officer was designated as director. The subordinates of the director reported to him, and were then placed on duty in the hospital by competent military authority. Orders were transmitted through the director to his subordinates, and all communications were forwarded through the director to the commanding officer. Copies of letters from the director to higher authorities of the American Red Cross involving questions of policy, administration, or supply were furnished the commanding officer. Strict orders were issued that no supplies were to be furnished to the various divisions of the hospital or to individuals unless approval of the executive officer had been obtained.

Weekly meetings were held of a board composed of the executive officer, the chaplain, and representatives of the American Red Cross, Knights of Columbus, Young Men's Christian Association, and Young Men's Hebrew Association. This board discussed questions of policy and activities as they affected the personnel and patients of the hospital.

ADJUTANT.

The duties of the adjutant did not differ materially from those usually vested in that officer.

Information Office.

The information office was organized as a subdivision of the adjutant's office about the middle of March, 1918, an officer being assigned as information officer. His duties in the beginning were mainly to ascertain from the ward surgeons the names of all seriously ill, and to send notes by letter or telegram, depending upon the seriousness of the case, to the nearest relative, giving information as to the condition of the patient in question. Subsequent telegrams were sent until the patient was out of danger. The information officer also interviewed visiting relatives of seriously ill patients, explaining the condition of the patients and assisting the relatives in any way possible, and all inquiries concerning the physical condition of patients were referred to the information office.

In compliance with instructions from the port surgeon and orders from the Surgeon General's Office, the information officer was also directed to send notes as soon as possible to the relatives of all patients received from overseas, including a brief statement of the patient's injury and whether or not the condition was serious or likely to lead to immediate death. In order to accomplish this, ward surgeons were charged with the duty of filling out cards bearing the necessary data for the information officer. The Red Cross officers assisted in sending out these notices.

Upon receipt of General Orders No. 84, Headquarters, Port of Embarkation, 1918, which directed that a special officer be appointed to take charge of the necessary work in connection with deaths at the hospital, the information officer was assigned as the officer in charge of deaths, in addition to his other duties. Upon the death of a soldier in the hospital his commanding officer was at once notified by telephone and this message was confirmed by letter.

Reports required by Army Regulations were made out by the information officer and the desired disposition of the body of a deceased patient was requested by telegram, from the patient's relatives. When no information of disposition was received after the lapse of 72 hours, authority was granted to bury the deceased at the Hampton National Cemetery. In such cases it was the duty of the information officer to arrange for the proper burial of the dead, which meant obtaining the necessary transportation to the cemetery, securing the firing squad and the services of a chaplain and sending the proper notification to the superintendent of the cemetery. In cases where relatives of the deceased were present at the time of death, it devolved upon the information officer to interview them and acquaint them with the provisions of Army Regulations covering deaths of soldiers; to obtain from them the necessary disposition of the effects of the deceased; when it was their desire to have a military escort accompany the body home, to obtain the necessary orders for such escort; and, in general, to assist the relatives in any way possible.

The signing of the armistice made it possible to allow a greater degree of freedom to the patients and to persons coming to the hospital as visitors. The question then of the entertainment of returned overseas patients who were ambulatory and were able to leave the hospital arose. Numerous requests were constantly received that patients might be allowed to leave the hospital to visit homes of civilians in the city and in neighboring towns, and from theaters and moving picture places that groups of soldiers be sent there for free entertainment. These requests became so numerous that frequently it was impracticable to give them adequate attention. The information officer was charged with the duty of receiving all such requests and instructing persons as to existing orders on this subject, as well as obtaining men who were in proper physical condition for the assignment of them as assistants to the patients granted leave from the hospital.

Evacuation of Patients.

As the number of overseas patients rapidly increased from January 18, 1918, authority was obtained to evacuate them as soon as practicable, and the following system was instituted: On their arrival, overseas patients were examined and classified by medical officers, the result of this classification being at once telegraphed to the Surgeon General who assigned cases to various hospitals in the interior. Based upon these destinations furnished by the Surgeon General, authority was obtained from the commanding general to move patients to the hospitals indicated. This system not only permitted of speedy evacuation but resulted in the disabled soldier being sent to the place where he received the best care, in an institution as near his home as possible.

After the disposition of patients had been obtained from the Surgeon General and the necessary orders had been received from headquarters of the port, a second letter was sent to relatives notifying them to what hospital and upon what date various patients were transferred, in order that any further inquiries could be correctly addressed.

REGISTRAR'S OFFICE.

While the organization of the registrar's office was quite similar to that in the ordinary base hospitals, it was so arranged that it met many special situations as they arose. To this end the personnel adjutant was placed under the registrar instead of under the adjutant. This was found necessary because of the very complicated service records and pay accounts of debarking patients who were under command of the commanding officer of patients and therefore under jurisdiction of the registrar. The personnel officer assumed charge of the service records of all patients in the hospital. Pay cards were kept and pay rolls prepared so that patients in the hospital were paid at the end of the month without recourse to their company or regimental organizations. In accordance with the provisions of a general order issued by the commanding general of the port, all service records of soldiers entering the hospital were to be delivered at the hospital within 24 hours thereafter. This order also specified definitely just what property was to be sent to the hospital with the soldier. With actual control of the soldier patient thus given the hospital, much of the confusion prior to that time was done away with, and the personnel office so discharged its functions as to prove the wisdom of this addition to the hospital organization.

Personnel Office.

The personnel office was opened on June 1, 1918, but received very few overseas patients before September 2, 1918, when the first sick and wounded from overseas began arriving regularly at this hospital. As these patients were unaccompanied by service records, a partial payment plan was used and a partial payment of $7.50 was made to each patient who desired pay. From that time until December 15, 1918, 587 men were paid in this manner. On the latter date a letter was received from the Director of Finance, War Department, under date of December 12, 1918, giving authority for the full payment of all overseas patients arriving at the hospital and having pay due. The methods pursued thereafter were in the following manner: A list of patients sent to each ward was obtained from the receiving office and the wards divided into four groups, each group containing about the same number of patients. An officer (with summary court power), eight typists and two clerks were assigned to each group or section; and the procedure of taking affidavits, arranging service records, pay cards, and pay rolls was commenced. Seven of the typists were assigned to take affidavits, one clerk to make service records and pay cards, the summary court officer following the team to administer oaths to the patients and to collect the affidavits. These records were turned over to the pay-roll team, one clerk and one typist. One clerk figured on the allotments and insurance, from information on the affidavits, and dictated the pay-roll data to the typist. After the roll was completed for each ward, it was signed and immediately sent to the quartermaster for figuring while the team proceeded with the work in other wards.

After all the rules were completed and sent to the quartermaster, and the money was ready for payment, practically the same method as that described above was used for the payment of the men. The rolls were divided into four sections; and two officers and enlisted men were assigned to each section, the money being taken to the wards and paid to the men directly.

The work connected with the preparation of affidavits was very slow because of the necessity for accuracy, so that a team of one officer, eight typists, and two clerks could complete only about 200 affidavits, service records, and pay cards per day, although a maximum of 250 was reached. The personnel office during the months of December, 1918, and January, 1919, was equipped to take affidavits, make service records and pay cards, and indorse them to general and base hospitals at the rate of about 250 per day; and that schedule was maintained from December 15, 1918, until the middle of January, 1919, when the shipments from overseas were greatly decreased. From the time that full payment to overseas patients was commenced, on December 15, 1918, until April 15, 1919, approximately 11,000 cases were handled. These all received their full pay on their own affidavits except about 400 men who were either absent, too ill to sign the rolls, or had no pay due them. Of the 11,000 cases received after December 15, 1918, only about 2,400 were accompanied by service records, and later about 40 per cent of the patients were received with records in their possession.

Because of the fact that very few service records accompanied the patients returned from overseas, and also because the few that were received were incomplete regarding pay status, it became customary to take affidavits from all patients arriving. On comparing affidavits and service records few discrepancies were found. As nearly all of the patients were anxious to have their pay records straightened out before going to a general hospital, and as some wished to go home on furlough, full payment on affidavits was welcomed by all of them.

SURGEON'S CERTIFICATE OF DISABILITY.

Many of the patients, sent to the hospital as a result of the port embarkation inspection of troops, were found to be unfit for further service in the Army, or at least for foreign service; consequently, there were discharged from the hospital alone several hundred patients, on surgeon's certificate of disability, which number does not include patients who returned to their organizations for discharge on surgeon's certificate of disability. In addition to those recommended for discharge, approximately 600 patients were classed as fit for domestic service only.

For a considerable time all men selected as suitable for discharge for disability, were admitted to the hospital as patients, examined, carried through to completion of their papers, and discharged at the hospital. This plan was found to operate much more smoothly than by having numerous boards scattered throughout the command. Later, the scheme was modified to the extent that after the fourth indorsement of the certificate of disability had been completed, the man concerned was transferred to either Camp Hill or Camp Alexander, and the actual discharge given at one or the other of these places by the local commanding officer. All of the papers in the case, however, were prepared by the disability board of the hospital.

PROPERTY ADMINISTRATION.

As will be readily understood, it was not necessary to keep the entire hospital plant in operation at any one time, excepting during periods of stress produced by the sudden reception of large bodies of sick and wounded. Therefore, in order to obtain the maximum flexibility in property administration and to provide for the constant opening and closing of wards and the continual expansion and contraction of patient personnel, questions of property in the medical and surgical service were handled through one officer detailed to each service. Each of these officers was under the command of the respective chief of service. This made it possible for the chief of service to keep constantly in touch with the situation of the service and to shift property from one place to another so as to settle emergencies as they arose, at the same time keeping track of the property and the property accountability of persons connected therewith. Thus it was practicable to perform the maximum amount of work with the minimum amount of property. The plan worked extremely well and the amount of property shortage was reduced to a very small figure. It had the additional advantage of relieving men who were doing technical professional work from a series of vexatious details which would have materially interfered with the performance of medical and surgical duties.

PROFESSIONAL DEPARTMENTS.

MEDICAL SERVICE.

In the organization of the clinical service at the hospital two large divisions were maintained, that is, medical and surgical. Each of these was subdivided into the groups of disease occurring under them, with a medical officer in charge who was directly responsible to the chief of service. Thus, the medical service included general medical cases, contagious diseases, and neuropsychiatric conditions.

The medical service at the embarkation hospital presented problems that were unique, fascinating, and a real test of efficiency. Few other American military hospitals presented so complete a range of medical military service. It had, first, the sick from the camps tributary to and served by the port, which furnished all the medical problems, clinical and pathological, found at the cantonments; second, the handling and disposition of the physically defective culled through the physical preembarkation examination of organizations going overseas; third, the examination, classification, treatment, and clearing of the sick and wounded returned from overseas. Thus, it was necessary to render service to every class of soldier except those immediately on the firing line. The bulk and variety of work handled, therefore, required a highly versatile specialized organization. Any delay or inefficiency would have speedily resulted in the hopeless clogging of the plant which was receiving patients from every direction. All officers, from the chiefs of service down, came from civilian life and included very few who had spent more than a few days or weeks at one of the training camps, which rendered them more or less proficient along general lines, but of little service so far as hospital administration was concerned. In addition to the professional and military duties, certain of the officers were ordered to duty as transport surgeons, or to fill vacancies arising in organizations prior to going overseas. Thus, the medical staff of the embarkation hospital became a reserve for those purposes. For the above outlined reasons and to establish a uniformity of technique, clinics and classes for instruction, both along professional, administrative and military lines, were established in the medical service and they proved to be of tremendous value both for the reasons indicated and for the establishment of a splendid esprit de corps. The clinical material was so abundant and of such exceptional interest that every officer grew tremendously in professional value. This applied especially to the clinics using the cardiovascular, contagious, and nervous diseases material.

The ward surgeons were compelled to make accurate diagnoses and establish efficient therapeutics; and to insure that such was done, a system of ward supervision was established. The chief of service made daily rounds of all wards, seeing cases in consultation and checking ward administration. The assistant chiefs made frequent bed checks of all wards, sending a written report to the chief as to the status of each patient. This kept the ward surgeons from becoming carelesss in the handling of patients and gave needed help in the diagnosis and treatment of difficult cases.

One of the assistant chiefs of service saw each patient who was to be discharged from the hospital, at the ward on the day before discharge and again at the receiving ward on the morning of discharge, to make certain that no patient was sent out of the hospital who was not suffciently recovered to go safely to duty or to quarters. This proved a very valuable procedure.

A ward report of disease incidence was furnished the chief daily, and a consolidated report was made therefrom. This also proved its worth: it made for accurate and speedy diagnosis and indicated wards in which existed problems needing attention; undertermined diagnoses were reduced to a minimum; chronic disorders such as arthritis or heart disease could be checked for investigation by the disability board: and any rise in disease incidence could be determined from day to day.

The above plan provided uniform methods of procedure, trained the staff to a high degree of professional and administrative efficiency, established a marked degree of esprit de corps, and assured ready consultation and checking by the chief and his assistants. The elasticity and effectiveness of the service enabled it to meet and surmount every crisis as it arose. The influenza epidemic and the sudden influx of overseas patients which occurred from time to time, frequently causing a doubling or tripling of the service in a day, were all managed with ease and efficiency.

In the handling of the overseas cases the hospital was not content to rest on the order to classify and transfer patients on the overseas diagnosis. Every case was examined before classification and the present status determined. A record of the condition of each man while he was a patient was maintained. As many members of the staff as were needed were detailed to the overseas ward and the examination and classification of patients were completely and accurately accomplished. Prior to January 1, 1919, no overseas arrivals required more than 24 hours for admission, bathing, delousing, examination, and classification. When speed was essential the above routine was accomplished on the day of admission.

The method of handling overseas patients debarking at the port was in detail as follows: Overseas patients were transported, in ambulances, from the port to the receiving office of the hospital, and were assigned to wards by the medical officer. On reaching the ward they were examined for contagious disease and vermin, given a bath, dressed in hospital clothes and assigned to beds. As soon as practicable the ward surgeon made his examination and filled out a classification sheet, giving the following data: Name, rank, organization; a concise diagnosis, and the classification according to specific instructions from the Surgeon General's Office; whether the patient was ambulatory or a litter patient; his home district; number of ward and the name of the examining surgeon. These classification sheets were collected and sent to the chiefs of the services for their approval. They were often passed on to the evacuation officer whose duty it was to distribute the patients to the hospital nearest their homes for treatment, reconstruction, vocational training, or discharge.

These interior hospitals to which overseas patients were sent at first were all general hospitals with the exception of one, the base hospital at Des Moines, Iowa, and very explicit instructions were given by the War Department to have men with certain diseases or injuries sent to hospitals which made a specialty of treating these conditions. If possible the men were sent to the hospital nearest their home.

As the hospital rapidly filled and more beds were required, orders were issued to send patients to the base hospitals in National Army cantonments and in National Guard camps, but no special instructions were given as to the nature of the cases to be sent to those hospitals. Thereafter, the policy was adopted of sending the convalescents and medical and surgical patients not requiring special treatment to the base hospitals.

On January 22, 1919, specific orders were sent out from the Surgeon General's Office, designating the exact nature of the cases to be sent to the various hospitals, general and base. These instructions did not make any material change in the distribution of patients, but soldiers could not be discharged from either a demobilizing camp hospital or from a general hospital. Therefore, men who were convalescent or suffering from minor medical or surgical complaints were sent to the base hospital nearest their homes instead of to a general hospital.

After the distribution of the patients to the various wards was completed, the Surgeon General's Office was communicated with by telephone and advised as to the number of patients on hand for each hospital, as well as the number in each class of cases. The classification sheet was then arranged according to rank of the patients and a nominal list was made. Several copies of the nominal list were made and sent to the port surgeon, with request for transportation.

In the course of 48 hours the schedule of the train provided was sent by the port surgeon, to the embarkation hospital with information as to the time and place of entrainment. When the time came for their departure from the hospital, the patients were fed and taken to the train in ambulances. Each group of men was put in charge of a medical officer, and was accompanied by several enlisted men of the Medical Department, the number varying with the total number of patients, the number of litter cases and the number of mental cases requiring special attendants. The above description of the handling of patients applied not only to enlisted men but to officers. Officers who were well enough to travel unattended were classified and distributed to the hospitals nearest their homes, their disposition being confirmed by the War Department within a few hours after their entrance to the hospital. A separate letter was written to the surgeon of the port for special orders for this class of patients. As soon as the orders were received the officers were furnished free transportation by the quartermaster and departed.

Of 33,676 admissions, 15,695 were medical cases and 17,981 surgical. This may be accounted for largely by the fact that the average length of time a surgical patient remained in the hospital was much more than that for the medical patient. Again, the minor infectious diseases and the influenza epidemic, made up a great part of the medical cases, as is illustrated by the following list:

Mumps	3,225
Measles	1,251
Pneumonia	1,364
Pneumococcus meningitis	5
Pulmonary tuberculosis	1,047
Tuberculous meningitis	6
Cerebrospinal meningitis	93
Scarlet fever	71
Diphtheria	80
Anthrax	4
Total	7,146

Those suffering with mumps began to be admitted to the hospital in large numbers the 1st of January, 1918, after which date there was an average of 170 cases present at all times.

The majority of measles cases also appeared during the winter months as evidenced by the fact that of the total of 1,251 cases admitted 513, or approximately 41 per cent, occurred before the 1st of March, 1918. It is interesting to note that the first patient admitted to the hospital suffered from measles. No accurate data are available as to the total number of cases of pneumonia which followed an attack of measles, but from the period March 1, 1918, to

January 1, 1919, out of the 322 deaths due to pneumonia, in four cases pneumonia appeared as a complication of measles. So soon as the laboratory permitted, bacteriological examinations were made of the throat of every patient entering the measles ward, detected streptococcus carriers being segregated. All cases were separated by means of the cubicle system which was accomplished by hanging sheets between the beds to reduce opportunities for cross infection. Patients developing pneumonia were at once moved into a separate ward. One case of hemorrhagic measles, with recovery, occurred.

Beginning April 1, 1918, all cases of pneumonia were typed and serum treatment was instituted in all types of cases where the laboratory returns were received prior to the crisis. Separate wards in which there was the cubicle system, as employed in the measles ward, were maintained for the use of penumonia convalescents.

Influenza became epidemic at this hospital about the middle of September, 1918. During the height of the epidemic, September 20, to October 20, 2,523 cases were treated, which, together with those cared for after these dates, brought the total up to about 3,000. Many other cases were cared for in the temporary hospitals, only the more serious cases being sent to the embarkation hospital. Between the dates above noted, 623 cases of pneumonia came under the care of the hospital. The mortality record of pneumonia of all types before, during, and after the influenza epidemic was very good; 14 per cent preceding the epidemic; 25 per cent during the epidemic when 650 cases were treated; and only about 4 per cent for 80 cases during November and December, 1918.

Of the many complications to be expected and which appeared, empyema was noted for its small incidence, only 3 cases appearing out of the 623 pneumonias.

The Pfeiffer bacillus was found in only 1.8 per cent out of a total of 1,148 examinations made, and was apparently not an etiological factor in this epidemic.

Of the secondary infections the streptococcus hemolyticus showed only a 6 per cent incidence, and to its absence was attributed the low empyema rate.

For the care of patients of whom a diagnosis of pulmonary tuberculosis had been made a large two-story building, originally constructed for housing members of the detachment, Medical Department, was used. Covered porches for both floors extended the entire length of this building and permitted of the proper fresh-air treatment so necessary for this class of patients. Except for bed-ridden patients, this ward served simply as a clearing station, as all tuberculosis patients, as soon as a positive diagnosis was made, were sent to one of the general hospitals where there were special facilities for their care. Of the 441 deaths in the hospital, 34 were due to pulmonary tuberculosis.

Ninety-three cases of cerebrospinal meningitis were treated. The majority of these occurred during the months of December, 1917, and January, 1918, at which time the disease may be said to have been epidemic among the colored labor organizations stationed at Camp Hill and Alexander. After that date there were the usual sporadic cases found among large bodies of troops. Probably because the majority of cases were negroes, the mortality was high, about 38 per cent. Meningitis patients were kept in strict isolation and received the usual serum treatment administered by means of spinal puncture.

Four cases of cross infection developed in the hospital. Each of the four patients had been in the hospital longer than one month at the time of infection. Two of them were convalescent from diphtheria, one from meningitis, and one from whooping cough.

As the cold weather of the winter of 1917–18 and the variable weather of the early spring of 1918 subsided, a very interesting change in the type of infections became noticeable. The respiratory diseases almost disappeared, while malaria and diseases of the dysentery type began to develop. The number of malaria cases up to January, 1919, was 141, 135 of them being tertian in type and six estivoautumnal. Many of these cases were received from organizations not stationed at the port.

Many interesting cases were found among men prevented from departing overseas as a result of diseases and injuries discovered at the preembarkation physical examination. Of these, the cardiovascular conditions were easily of first importance. There were 738 of these cases that were carefully classified; and if recovery could be secured in short time, they were kept under observation. This applied particularly to the postinfectious pericardial, endocardial, and myocardial conditions. Cases giving promise of recovery or improvement under more or less prolonged treatment, were sent to a general hospital affording special attention to cardiovascular conditions. Those who had reached the limit of improvement were either recommended for domestic service or discharge from the Army.

All sick prisoners of the port were treated at the embarkation hospital, the guard being furnished by the provost marshal.

The cases returned from overseas proved a source of much interest to the medical staff as indicating which type of constitution was the most likely to fall under the stress and strain of modern warfare. It was found that pulmonary tuberculosis, cardiovascular, and neuropsychiatric diseases, in the order named, are to be expected in this class of soldiers. Nephritis, diabetes, asthma, bronchitis, and laryngitis following gas poisoning, goiter and occasional gastroenteric conditions also were found.

Neuropsychiatric Service.

The neuropsychiatric ward of the hospital was opened April 15, 1918. Previous to that time all mental and nervous cases were housed and treated in ward 13, a general medical ward. The service showed a steady increase in the cases from the local camps, being augmented by the return of overseas patients. On July 7, 1918, upon request to the Surgeon General's Office, 11 enlisted men, including a graduate nurse, all of whom had received training in the handling of this type of patient, were sent from St. Elizabeths Hospital, Washington.

At first, the neuropsychiatric service had almost entirely the function of a clearing station: patients were kept only so long as was necessary to make a professional diagnosis and to recommend action as to what disposition should be made of them, after which they were either discharged on certificate of disability, assigned to domestic service only, sent to general hospitals for further observation, or, in rare instances, returned to duty.

Frequent clinics and classes of instruction for the staff of the medical service were held and efforts were made to establish uniform and thorough methods as to diagnosis and treatment, so that each patient might have every advantage tending to early recovery and return to active duty.

SURGICAL SERVICE.

The surgical service at the embarkation hospital was subdivided in accordance with the following grouping: General surgical cases; venereal diseases; eye, ear, nose, and throat diseases; dermatological diseases; dental service; and X-ray service.

During the time the hospital occupied temporary structures, the surgical service was comparatively small and the facilities for operative work were limited. The operation room was located on the second floor of the barracks building with no provision for heating except an ordinary stove. As no nurses had been assigned to the hospital, enlisted men were the only available help in the preparation of surgical dressings and other materials necessary in an operating room. Sterilization of all material was accomplished either by boiling over a small alcohol stove or by the use of antiseptic solutions. With only such crude facilities on hand, operative surgery represented more a game of chance than technical skill; however, the first operation performed, an appendectomy, was entirely successful. With the opening of the hospital proper, all this was changed and a complete operating pavilion was supplied in which up to January 1, 1919, 1,797 operations were performed.

Venereal Service.

The management of venereal diseases was always a difficult problem in the port and as the majority of cases usually found their way to the embarkation hospital, the largest share of the burden was thrown upon that institution. The presence of large numbers of colored troops, and the fact that no soldier with venereal disease was allowed to embark for overseas service, were the two facts which created the problem. It was soon recognized that to turn over the wards to the treatment of these diseases would leave little room for anything else. Moreover, the majority of these patients were not bedridden. Consequently, two wards in the surgical service were set aside for the treatment of such cases in which bed treatment was necessary. For the remainder, authority was obtained to institute a tent hospital; accordingly, on April 28, 1918, 23 pyramidal tents were set up in the open on a plot of ground near block 18 of Camp Stuart. Later, these tents were transformed into huts, and a barrack building, contiguous to this block, was assigned as administrative headquarters in which treatment was given. By evening of the same day practically all of the tents were filled, and from this beginning the camp increased rapidly in size until there were 103 huts and the daily reports of patients averaged between 400 and 500. On May 20, 1918, work was started to place the venereal disease section upon a more permanent basis. Frames were erected for each tent, a wooden floor was provided, and the sides and door screened. A large mess hall and kitchen were built and a special building designed in which treatments were given. This construction was completed June 21, 1918. Tents were arranged in rows, each row being lettered and the tents in each row numbered. Each tent furnished sleeping quarters for six men. Each row of tents was in charge of a medical officer who acted in the capacity of ward surgeon of his row. In the treatment building were special rooms for each row of tents and each room was lettered to correspond with the row. Each room had hot and cold water and the proper equipment for giving treatment. Here also were filed the clinical records for patients. There were also rooms for administering prophylaxis for members of the enlisted personnel, a separate room equipped for dark field examinations, and a small operating room fully equipped for minor surgery. One end of the building was given over to offices for the medical officer in charge, store rooms for medical supplies, post office, and rooms for holding sick call.

In the rear of the camp was an empty space used as exercise and play grounds. Here the Young Men's Christian Association erected a large tent equipped with a stage, benches, and writing tables. Some form of entertainment was furnished twice weekly and these played an important part in the maintenance of contentment and discipline. As the camp increased in size difficulty was experienced in confining patients to the vicinity of the camp; therefore, a strong wire barricade was built to inclose the whole area; and a camp guard composed of enlisted men of the Medical Department was organized. There were nine medical officers on duty at the venereal camp hospital, all of whom had been especially trained in the treatment of genitourinary diseases. Fifty enlisted men of the Medical Department were also assigned to duty there. As the patients were all ambulatory, it was the policy to have the light work about the camp, such as policing, making beds, and mess hall duty, performed by the patients themselves.

From May 3, 1918, to January 1, 1919, 2,809 cases were admitted to venereal camps Nos. 1 and 2. Of these, 1,354 cases were returned to duty, 457 were discharged on surgeon's certificate of disability, and 998 remained under treatment.

EYE, EAR, NOSE, AND THROAT DEPARTMENT.

The eye, ear, nose, and throat department was organized as a branch of the surgical service at the time when the hospital was opened; but prior to February 1, 1918, such work as arose was taken care of by a resident physician at Newport News, Va., employed as a contract surgeon. On February 1, however, a specialist in these diseases was assigned to the hospital and a ward was set aside for the care of this type of cases, operative work being done, when occasion arose, in the general operating room. The service rapidly increased and plans were soon made for the establishment of a separate building. For this purpose one-half of store room No. 1 was chosen and the necessary remodeling was finished on July 14, 1918, and the department equipped with its own operating room, treatment rooms, and dark rooms. Besides the care of patients in the wards of the hospital, a clinic was held daily between hours of 9 and 12 a. m., where all such patients came from outside points within the port of embarkation. This side of the work increased so that 20 to 30 such patients were treated each day.

A 30-bed ward was then set aside for the eye, ear, nose, and throat service, to which an equally large ward was added, giving in all accommodations for 60 bed patients to this service. Ultimately, the wards of the service were moved to a building of tile construction which had 100 beds in four wards, an office, diet, treatment, and isolation wards.

The out-patient clinic was at first held in the ward. This was soon transferred to a small room in the operating pavilion, refractions being done in the corridor. On July 14, 1918, a new building, 25 by 75 feet, was opened, containing waiting, operating, treatment, and dark rooms, all fairly well equipped for most of the ordinary work.

The total number of treatments in the eye, ear, nose, and throat department was 2,270 and the operations numbered 481. The eye service admitted to its ward 587, furnished 7,414 treatments in the clinic to 1,608 patients, and treated in the clinic and hospital 3,367 patients prior to January 1, 1919. There were 987 patients refracted, for which the Medical Department issued 449 pairs of glasses, and 104 pairs were otherwise supplied to those not entitled to a gratuitous issue. Numerous daily examinations were made in the wards of patients unable to come to the clinic.

The very large amount of interesting material in this service was a source of satisfaction to the personnel, all of whom showed much interest in the work. No special courses were given, but general instruction was constantly given to the less experienced officers.

Dermatological Department.

The dermatological department was established as a separate department of the surgical service on January 15, 1918. No separate ward was set aside for the treatment of skin cases except those of a contagious character, and in this case a group of tents known as ward B was used. The tents were of the same size and contained the same equipment as those of the venereal camp hospital, separate toilet and bathing facilities being provided.

By far the largest number of patients treated suffered from scabies. Since soldiers suffering from this condition were not allowed to embark for overseas, and as the organization from which they came remained at the port only a short time, it was of great importance that they receive prompt and speedy treatment. This treatment consisted of two parts, the actual medical and the prophylactic. The afflicted person began his treatment the first night, consisting of a vigorous scrubbing with soap under the shower bath, instructions having been given him to get the tops off as many lesions as possible. Thoroughness in this part of the treatment was stimulated by informing the man that the better his part was performed the sooner would he be discharged from the hospital. Following the bath each man rubbed in the ointment over the body below the chin. The ointment used was the official sulphur ointment, sometimes used alone and occasionally with an added balsam of Peru, 4.8 grams to 30 grams of the ointment. The ointment remained on throughout the day. The preventive part of the treatment was undertaken with a view to preventing reinfection in the individual and a spread of the disease to others. In the first place, the clothes of each man, after being checked, were sent to the hospital sterilizer and then to the laundry. All blankets, as well as bed linens and towels, were sterilized upon the discharge of the patient from the ward. Every case of scabies was reported promptly to the organization commander in order that the infected person's clothing and blankets might be sterilized before his return to his company, and to prevent their use by others until sterilization had been effected. That the above system was successful is evidenced by the fact that only 3 cases of the 102 treated were readmitted to the scabies ward.

Dental Department.

The dental department of the hospital at its opening consisted of two operating dental surgeons, a sergeant, and two enlisted assistants. The equipment at that time comprised one base and one portable outfit, and was located in a barrack building. The number of dental surgeons was increased in January, 1918, to eight, but equipment for that number of men did not arrive until some time later, and unfortunately, after its arrival, lack of space prevented its installation. Adequate space was finally provided in storeroom No. 1 of the hospital group, and patients were cared for in this building until it was necessary to transfer this organization to a part of the ward in order that the building could be remodeled and made suitable for an eye, ear, nose, and throat, and dental dispensary. The remodeled building was completed and occupied on July 15, 1918. The dental department occupied 2,200 square feet of floor space, which was divided into 10 operating rooms, offices, and laboratory, and was provided with complete white enamel operating equipment. The dental personnel consisted of nine operating dental surgeons, a sergeant, and nine enlisted assistants. The character of the work accomplished comprised minor oral surgery, operative and prosthetic dentistry, and porcelain crown work, but gold crown and bridge work could be successfully accomplished when materials were supplied. There were 10,867 patients given 16,904 sittings in the clinic.

X-ray Department.

Owing to the delays in transportation incident to wartime traffic, the roentgenological laboratory at this hospital was not installed until April, 1918, and was made ready for use the 15th of that month. Situated in a building between the administration building and the operating pavilion, and connected by closed corridors with all wards, its location was advantageous for both hospital and out-patient work. While the laboratory was primarily a part of the embarkation hospital, being in reality a port laboratory, all the X-ray work for the entire port of embarkation was done here. The naval transport service likewise made use of the laboratory for ambulatory cases rather than have them make the long trip to the Naval Hospital at Norfolk.

The equipment was a standard base hospital type in use in nearly all Army hospitals and comprised a high-tension transformer, a Kelly-Koett table with fluoroscopic attachment, an upright roentgenoscope, a Kelly-Koett plate changing device, a Wheatstone stereoscope, a Kelly-Koett tube stand, and all the necessary accessories for radiographic and fluoroscopic work. The Coolidge tube was used exclusively. A United States Army bedside unit was used for ward work.

Ward surgeons, attending surgeons, regimental surgeons, and medical officers on duty at camp infirmaries were instructed to send their patients with Form 55*l*, Medical Department, properly filled out in duplicate. The patient's name, rank, organization, and the portion of his body radiographed were then entered serially in a book provided for that purpose. He was given a number and the plates were marked with corresponding lead numbers at the time of exposure. The same information, with the additional data of the disposition of the plate, was then entered in another book with names arranged alphabetically. The plates were filed according to size in a specially constructed filing case which contained numbered and lettered compartments. The X-ray findings were typewritten in duplicate and both slips were sent by messenger to the ward surgeon or other medical officer concerned. The surgeon retained one slip and initialed the other, which was returned to the X-ray laboratory and retained as a receipt. All reports for out-patients were sent through the adjutant's office.

Unless the emergency required an immediate report, all plates exposed during a day's work were interpreted during the first hours of the following morning, the reports thereon being sent out as soon as written. Cases were received at the laboratory between 9 a. m. and 5 p. m. without previous appointment save in cases that demanded a special preparation, such as gastrointestinal, urinary tract, or gall-bladder.

With some variations the standard Army technique of 40 milliamperes, 5-inch gap, and 20-inch distance was used, the only departure being in gastrointestinal, pulmonary, and cardiovascular cases.

Nearly all pulmonary patients were fluoroscoped and all were radiographed stereoscopically and in the standing position, if practicable. The milliamperage was raised to 100, the tube plate distance was increased to 28 inches, and the time shortened to one second, the patient being instructed to hold a moderate inspiration until both exposures were made. Gastrointestinal patients were first fluoroscoped and then a series of immediate plates made, both in the erect and prone positions. Plates were made also at 1 hour, 6 hours, and 24 hours. The milliamperage used was 100, the spark gap 5 inches, the distance 24 inches, and the time one-third second. Intensifying screens were used. Cardiovascular cases were X-rayed in an erect position. The tube-plate distance was 72 inches, the milliamperage 100, the spark gap 6 inches, and the time one-half second with the intensifying screen. In the urologicol patients both kidneys, both ureters, and the bladder were X-rayed, using 40 milliamperage, 5-inch gap, and making compression with an inflated rubber ball. The time varied according to the size and weight of the patient. In mastoid cases both sides were taken on a single plate, the technique being 25 milliamperes, 5-inch gap, and 10 seconds. All bones were radiographed in two views. Hips and shoulders were stereoscoped. In suspected joint disease the corresponding joint was rayed for comparison.

The dark room was equipped for tank development. The developing solution was compounded for a developing time of 8 minutes at a temperature of 65° F. All plates were allowed to fix for 15 minutes and were washed in running water for 1 hour.

The first case on record in the laboratory was X-rayed April 16, 1918; and from this date to August 22, 1919, the total number of patients examined in the laboratory was 3,392. A large number of patients examined was not admitted to the hospital, so that only about 7 per cent of that number were X-rayed.

LABORATORY.

A specially designed laboratory, completely equipped, was occupied January 1, 1919, and though it was the port laboratory, it was located in the hospital grounds. Prior to November, 1918, the highest number of cases examined in a single month was 177, a daily average of 5.9 In November the cases jumped to 233, with a daily average of 7.5, and from that time the increase was steady, until in March, 1919, the number of cases advanced to 312, with a daily average of 10.06.

STERILIZATION AND DISINFECTION.

Sterilization and disinfection were accomplished by steam, boiling in water, by chemicals, sunlight, soap and water, and incineration. Clothing, excepting hat, shoes, and raincoat, of each patient having or suspected of having an infectious or contagious disease, was put into a barrack bag and sterilized in a steam autoclave for 15 minutes. In the autoclave a vacuum was first produced, followed by a steam pressure of 15 pounds for 20 minutes. Before the autoclave was again opened a slight vacuum was used to hasten the drying of clothes, and the clothes were then stored until the patient was ready to leave the hospital.

Drinking cups, eating utensils, etc., were collected each meal and placed on a butler's tray. This tray, with its contents, was placed directly in a galvanized iron lined box. The box had a tight-fitting lid, an inlet for steam and outlet for the water of condensation. After sterilization for 10 minutes the tray and dishes were taken into the kitchen, washed, dried, and put away.

All soiled articles were made into bundles, around which was wrapped a clean sheet. Before these bundles were taken to the laundry they were sterilized in the steam autoclave in the same manner as the clothing of patients was sterilized.

Immediately on discharge or other departure of a patient, the used mattress, blankets, and pillow, except in cases of measles or mumps, were sterilized in the steam autoclave.

Surgical dressings, sponges, towels, etc., were made by attendants or patients in the contagious wards and were put in a barrack bag and sterilized in the steam autoclave. In order that a sufficient supply of operating gowns should be on hand at all times, gowns used once, or not soiled, were placed in a barrack bag, sterilized in the steam autoclave and returned to the proper ward, to be used again. Medicine glasses, surgical instruments, syringes, lumbar puncture needles, rubber tubing, and catheters, were sterilized in boiling water for at least 10 minutes, on a gas range or electric plate. Face masks were sterilized by boiling in water for 10 minutes. Thermometers, when not in use, were kept in 1–1000 bichloride solution or liquor cresolis compositus, for one hour. Sputum cups, irrigating cans, bed pans, urinals, rubber blankets, rubber rings, hot water bags, and ice caps, were sterilized in a 10 to 25 per cent liquor cresolis compositus solution for one hour. A 10 per cent solution of liquor cresolis compositus was used with which to wash the bedsteads, bedside tables, chairs, radiators, walls, doors, and doorknobs. The hands of attendants were disinfected by washing them in a 5 per cent solution of liquor cresolis compositus, and followed by hot water and soap.

Personal articles belonging to patients, such as foreign stamps, helmets, and razors, were sterilized with 70 per cent alcohol. Seventy per cent alcohol was likewise used to disinfect the hands.

The mattresses, pillows, and blankets used by patients having measles or mumps, were sterilized by placing them in the sunlight for one day.

Soiled dressings, swabs, tongue depressors, etc., were burned daily. All books, journals, and papers were burned upon a patient's discharge or other departure.

All clothing infested with vermin or suspected of harboring vermin, was placed in a small autoclave and subjected to 15 pounds pressure of steam for 30 minutes. This process was repeated if any live vermin were found after the first treatment. Patients having vermin were shaved, and given a bath with a 1–500 bichloride solution. All patients returning from overseas were examined for vermin on the day of arrival, examined again three days before departure and on the day of departure.

NURSING SERVICE.

The nursing service at the Embarkation Hospital, Camp Stuart, was inaugurated in January, 1918, when the chief nurse and 10 nurses reported and went immediately on duty. Eight-hour duty of three periods a day was begun and proved very satisfactory until April, 1918, when, due to the increased amount of work, it was found more practicable to have a night tour of duty consist of 12 hours and a day tour of 7 hours.

As the wards were completed and opened, more nurses were assigned to duty, and by March 31, 1918, 65 nurses were present. One was assigned as night supervisor, one as housekeeper, and one as assistant to the chief nurse. The night supervisor was changed monthly, as were all other night nurses.

From May 26, 1918, there were constant changes in the nursing personnel. After September, 1918, the number of nurses on duty averaged 150.

The nursing work was much the same as in any Army hospital with perhaps a little more paper work, due to the constant evacuation of patients returning from overseas. The surgical service, from the nursing point of view, was extremely heavy at times, as every surgical patient returned from overseas, and the majority of them were surgical, required one or more dressings. In wards of 100 patients, each one having to be dressed daily, the work of doing these dressings and keeping up supplies was no small task.

The ward for sick nurses was completed in August, 1918. It had a capacity of 35 beds, including the isolation department. Nurses returning from overseas were admitted to this ward, which was run exactly like other wards. The first nurses returning from overseas were admitted during August, and from that time until May 1, 1919, there was a total of 115 nurses returned through the embarkation hospital. Of this group 95 were patients and were transferred to general hospitals for further observation and treatment, and 20 were casuals, some of whom were discharged and others transferred to other hospitals for duty.

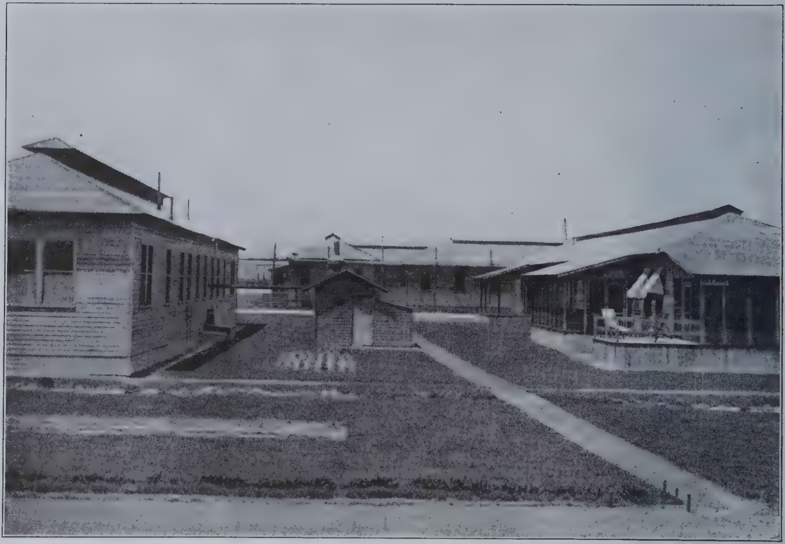

FIG. 163.—Nurses' wards, Embarkation Hospital, Newport News, Va.

AMBULANCE SERVICE.

The ambulance service was originally under the control of the medical supply officer so far as equipment was concerned. It continued to be so administered until February 1, 1919, when all ambulances and their accessories at the hospital were transferred to the Motor Transport Corps. Truck and wagon transportation was obtained from Camp Hill truck and wagon companies, and later from the Motor Transport Corps. On the whole the transportation was adequate although at times difficulty was experienced in obtaining the requisite number of wagons and trucks.

MAINTENANCE OF GROUNDS AND BUILDINGS.

The maintenance of grounds and buildings of the hospital was carried on by the supply department until November 1, 1918, when the maintenance of buildings was turned over to the detachment port utilities; and the maintenance of grounds and gardens was transferred to the control of the executive officer of the hospital.

HOSPITAL ANNEXES.

There was no Young Men's Christian Association building connected with the embarkation hospital; hence a building was constructed by that association on Chestnut Avenue, in close proximity to the detachment buildings. It afforded a place of recreation for the enlisted men of the Medical Department and was conveniently located. A Young Men's Christian Association tent was also maintained for the patients of the venereal camp hospital, and the main Young Men's Christian Association hut of Camp Stuart was located just a few hundred feet from the administration building of the hospital. While this hut was open to patients it was a prominent gathering place for the enlisted personnel.

For the patients of the hospital, the American Red Cross had provided two separate buildings of the usual recreation type, known as the convalescent patients' house and the convalescent patients' theater. The latter building was originally constructed as a recreation house for colored troops, but was later converted into a theater. Both were large frame buildings fashioned in the form of a St. George cross, built upon piles and extending directly over the water of Hampton Roads in front of wards 8 and 9. This house was a recreational house for such patients as were able to use it. A large central room with brick fire place on either side served as main assembly hall for entertainment and recreation purposes. Small rooms to either side were used as library, offices, baths, etc. Other rooms were set aside for the accommodation of relatives of very sick patients who desired to stay near the hospital. The theater was used for moving picture shows and other entertainments.

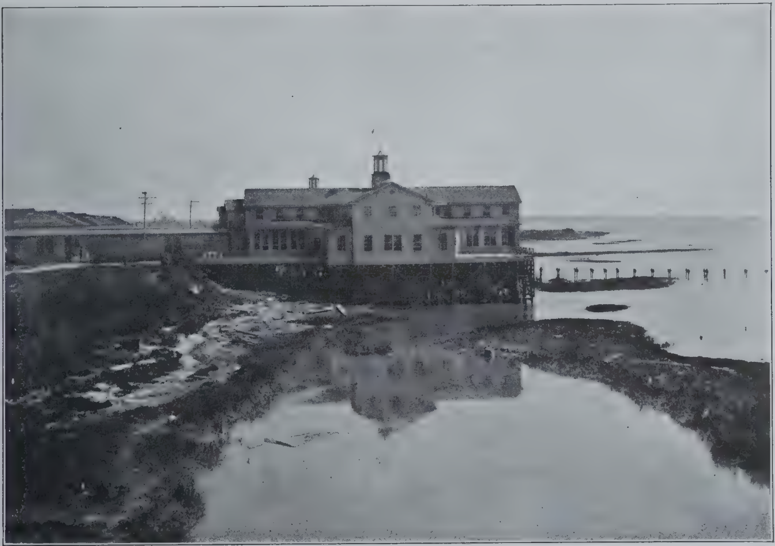

FIG. 164.—Red Cross Convalescent House, Embarkation Hospital, Newport News, Va.

Eight officers of the American Red Cross, who devoted their entire time to the welfare of patients, were assigned to the hospital. Besides the work carried on in the convalescent house the activities of the Red Cross covered a wide field and consisted of the filling of requisitions from the commanding officer of the hospital for materials needed quickly, or not regularly supplied by the War Department, but which, nevertheless, were necessary for the comfort and health of patients. Officials of the Red Cross visited the wards, collected and mailed letters, sold stamps, and stamped them free of charge where the patients were without money. They wrote letters, sent telegrams, and cashed checks, postal and telegraph money orders for the patients. Delayed payments of allotments were hastened by them and information regarding allotments and insurance was given. Relief was also furnished families of patients in financial trouble, and board and rooms were found for visiting relatives or friends of patients.

The embarkation hospital organized a school for illiterates in April, 1918, the purpose of which was the education of the enlisted men of the Medical Department. The chaplain exercised supervision over the school but the actual work of teaching was performed by a representative of the Young Men's Christian Association. All that was attempted in the way of education was to teach the men to sign the pay roll and read simple orders. Attendance was an ordered duty, the school hours being credited as part of the working day.

Statistical data, United States Army Embarkation Hospital, Camp Stuart, Newport News, Va., from November 13, 1917, to September 13, 1919, inclusive. [a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
November	......	13	315	1	329	42	2	4	.....	.....	.....	2	7	272	......	2,426	......
December	272	28	514	45	859	434	26	37	.....	.....	.....	61	23	278	......	8,182	......
1918.																	
January	278	76	779	3	1,136	507	30	5	.....	.....	.....	4	82	508	......	10,613	......
February	508	58	1,191	19	1,776	668	17	29	.....	.....	.....	179	9	874	......	18,812	......
March	874	41	2,251	28	3,194	882	33	17	.....	.....	.....	910	31	1,321	......	32,657	......
April	1,321	49	1,899	7	3,276	968	47	48	.....	4	.....	958	17	1,234	......	37,847	......
May	1,234	58	2,051	15	3,358	1,019	17	72	3	.....	.....	572	43	1,632	......	44,498	......
June	1,632	42	1,833	46	3,553	1,523	13	93	4	.....	.....	487	55	1,378	......	44,998	......
July	1,378	52	1,782	12	3,224	1,225	15	86	1	.....	8	619	26	1,244	......	43,144	......
August	1,244	53	1,949	17	3,263	1,343	12	116	1	.....	2	362	25	1,402	......	40,774	......
September	1,402	104	2,914	38	4,458	1,000	12	193	7	.....	.....	97	38	3,111	......	47,299	......
October	3,111	291	2,091	69	5,562	1,357	204	195	3	.....	3	2,107	85	1,608	......	63,923	......
November	1,608	54	1,200	33	2,895	1,001	14	239	.....	.....	.....	748	45	848	......	41,429	......
December	848	153	1,315	28	2,344	678	13	353	.....	.....	.....	663	21	616	......	25,938	......
1919.																	
January	616	149	1,776	22	2,563	1,030	22	265	5	.....	.....	228	25	988	......	27,666	......
February	988	142	1,481	44	2,655	1,217	21	113	1	.....	.....	310	28	965	......	29,958	......
March	965	92	1,175	23	2,255	1,268	21	2	.....	.....	.....	301	29	634	......	26,107	......
April	634	68	742	19	1,463	713	11	70	2	.....	.....	91	15	561	......	16,199	......
May	561	30	888	27	1,506	808	12	37	3	.....	.....	191	17	438	......	14,852	......
June	438	32	2,534	22	3,026	2,180	9	24	.....	2	.....	291	22	498	......	20,031	......
July	498	38	1,310	38	1,884	1,145	7	.....	.....	.....	.....	178	42	512	......	16,572	......
August	512	21	795	19	1,347	950	3	18	2	.....	.....	123	19	232	......	12,998	......
September	232	3	52	1	288	86	.....	49	.....	.....	.....	145	8	......	......	2,058	......

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., "E. E.," Misc. Div.)

Statistical data, United States Army Embarkation Hospital, Camp Stuart, Newport News, Va., from November 13, 1917, to September 13, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1919.				
July	48	17	....	65
August	57	9	....	66
September	57	9	....	66

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
December	12	....	....	12	149	....	149	....
1918.								
January	16	....	....	16	224	....	224	....
February	32	....	....	32	266	....	266	....
March	76	....	....	76	356	....	356	....
April	79	....	....	79	548	....	548	....
May	80	....	....	80	544	....	544	....
June	93	....	1	94	693	24	717	....
July	99	....	1	100	683	37	720	103
August	94	....	1	95	774	36	810	116
September	110	....	1	111	977	23	1,000	146
October	124	6	4	134	940	17	957	145
November	119	6	5	130	776	17	793	142
December	117	5	4	126	1,206	20	1,226	....
1919.								
January	111	6	3	120	1,382	29	1,411	....
February	102	6	2	110	1,155	44	1,199	....
March	103	5	2	110	1,033	36	1,069	....
April	74	3	3	80	998	....	998	....
May	68	4	3	75	863	....	863	....
June	62	5	4	71	698	....	698	....
July	77	9	4	90	574	....	574	....
August	48	10	2	60	391	....	391	....
September	2	7	....	9	53	....	53	....

SECTION V.

OTHER GENERAL HOSPITALS.

CHAPTER XXV.

ARMY AND NAVY GENERAL HOSPITAL; GENERAL HOSPITAL, FORT BAYARD; LETTERMAN GENERAL HOSPITAL; GENERAL HOSPITALS, NOS. 1, 4, 5, 6, 7, AND 8.

ARMY AND NAVY GENERAL HOSPITAL, HOT SPRINGS, ARK.

Under the pressure of war this hospital was expanded to 268 beds;[1] no new buildings, however, were added. Suitable space for augmenting the capacity of the hospital was not available and for this reason no attempt was made to make much use of it. The purchase of the Eastman Hotel, across the street from the hospital, was contemplated at one time as a possible means of material enlargement, but was not consummated.[2] The requisition of unimproved property, in the immediate vicinity of the hospital, as well as at a distance, was also considered only to be given up.[2]

The institution continued to function, throughout the years 1917, 1918, and 1919, much in the same manner as it did for many years preceding the war. Patients of the same type were admitted as formerly, comprising those sent to the hospital for treatment of conditions for which the Hot Springs of Arkansas had an established reputation for being beneficial.

There is nothing in the records to show that this hospital participated in any of the activities incident to the war until the spring of 1919, when certain venereal and other cases from overseas were admitted to the hospital to the number of approximately 200,[3] none of which could be the subject of any special remark.

Though considerably smaller than any of the temporary general hospitals, the Army and Navy General Hospital outstripped many of them in numbers treated, due primarily to the fact of its continuous operation throughout the whole war period.

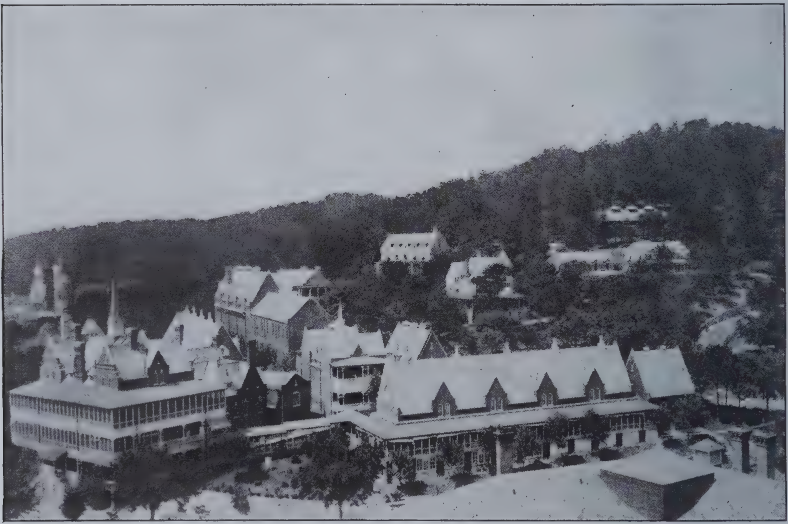

FIG. 165.—Army and Navy General Hospital, Hot Springs, Ark.

Statistical data, Army and Navy General Hospital, Hot Springs, Ark., from April, 1917, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Agggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
April	92	8	14	33	147	25	1	7	.....	.....	.....	.....	14	99	1	2,790	30
May	100	6	18	29	153	18	.....	7	.....	.....	.....	.....	26	101	1	3,233	31
June	102	4	8	42	156	10	.....	1	.....	.....	.....	.....	31	114	.....	3,399	25
July	114	4	5	20	143	15	.....	7	.....	.....	.....	1	32	88	.....	3,219	.....
August	88	4	8	25	125	6	1	3	.....	.....	.....	.....	22	93	.....	2,598	3
September	93	2	5	20	120	11	.....	8	.....	.....	.....	.....	25	76	.....	2,449	.....
October	76	2	5	35	118	8	.....	4	.....	.....	.....	.....	23	83	.....	1,403	.....
November	83	10	9	34	136	12	1	2	.....	.....	.....	.....	19	102	.....	2,021	6
December	102	36	7	.....	145	27	1	.....	.....	.....	.....	.....	.....	117	.....	3,469	.....
1918.																	
January	117	9	14	37	177	12	1	2	.....	.....	.....	.....	32	130	.....	4,061	.....
February	130	14	17	10	171	20	.....	6	.....	.....	.....	.....	36	109	.....	3,228	.....
March	109	12	18	18	157	21	2	4	.....	.....	.....	.....	38	92	.....	2,700	.....
April	92	9	33	19	153	13	2	9	.....	.....	.....	.....	21	108	.....	3,096	.....
May	108	8	22	17	155	26	1	2	.....	.....	.....	.....	20	106	.....	3,586	.....
June	106	5	35	7	153	26	3	7	.....	.....	.....	.....	13	104	.....	3,146	.....
July	104	2	94	5	205	11	1	3	.....	.....	.....	.....	7	183	.....	3,320	.....
August	183	9	20	8	220	34	3	9	.....	.....	.....	.....	13	161	.....	4,840	.....
September	161	4	23	10	198	20	1	12	.....	.....	.....	.....	4	161	.....	3,973	.....
October	161	50	15	2	228	53	6	3	.....	.....	.....	.....	10	154	2	5,138	.....
November	156	10	30	8	204	30	.....	9	.....	.....	.....	.....	2	161	2	4,676	.....
December	163	6	26	17	212	39	.....	19	.....	2	.....	.....	7	145	.....	7,182	.....
1919.																	
January	145	10	28	12	195	26	.....	10	.....	.....	.....	.....	14	145	.....	4,385	.....
February	145	14	46	21	226	28	.....	13	.....	.....	.....	1	15	169	.....	5,586	.....
March	169	10	58	13	250	51	.....	10	.....	.....	.....	.....	33	156	.....	5,220	.....
April	156	11	42	29	238	54	1	4	.....	.....	.....	1	46	132	.....	4,853	.....
May	132	11	69	33	245	36	.....	15	.....	2	.....	6	13	173	.....	4,222	.....
June	173	5	165	41	384	97	1	9	10	.....	1	1	58	207	.....	6,707	.....
July	207	8	29	50	294	72	.....	16	11	.....	.....	3	52	140	.....	5,026	.....
August	140	4	160	38	342	57	1	32	6	.....	.....	6	36	204	.....	5,925	.....
September	204	6	68	32	310	130	.....	13	.....	5	.....	.....	34	128	.....	4,918	.....
October	128	2	37	38	205	61	1	6	1	8	.....	1	24	103	.....	3,565	.....
November	103	4	23	36	166	28	1	6	.....	.....	.....	.....	19	112	.....	3,843	.....
December	112	2	15	83	212	5	.....	13	.....	6	2	.....	41	145	.....	4,050	.....

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					**1918.**				
April	0	24	7	31	August	0	24	8	32
May	0	24	7	31	September	0	24	8	32
June	0	24	7	31	October	0	24	8	32
July	0	24	7	31	November	0	24	8	32
August	0	24	7	31	December	0	24	8	32
September	0	24	7	31					
October	0	24	7	31	**1919.**				
November	0	24	7	31	January	0	24	8	32
December	0	24	7	31	February	0	24	8	32
					March	12	14	8	34
1918					April	12	14	8	34
January	0	24	7	31	May	12	14	8	34
February	0	24	7	31	June	12	14	8	34
March	0	24	7	31	July	12	14	6	32
April	0	24	7	31	August	12	14	6	32
May	0	24	7	31	September	12	14	6	32
June	0	24	7	31	October	12	14	6	32
July	0	24	8	32	November	12	14	6	32

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, Army and Navy General Hospital, Hot Springs, Ark., from April, 1917, to December, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
April	9	....	....	9	75	11	86	12
May	7	....	....	7	75	11	86	13
June	7	....	....	7	72	11	83	10
July	7	....	....	7	73	11	84	12
August	8	....	....	8	69	11	80	12
September	8	....	....	8	71	10	81	11
October	8	....	....	8	70	12	82	10
November	8	....	....	8	68	12	80	10
December	8	....	....	8	71	12	83	12
1918.								
January	8	....	....	8	85	12	97	12
February	8	....	....	8	86	12	98	13
March	8	....	1	9	83	12	95	13
April	7	....	1	8	83	12	95	13
May	7	....	1	8	85	12	97	13
June	7	....	1	8	85	12	97	15
July	8	....	1	9	86	12	98	14
August	10	1	1	12	84	10	94	16
September	11	1	1	13	83	10	93	15
October	11	1	1	13	80	10	90	16
November	10	1	1	12	79	11	90	17
December	11	....	....	11	78	11	89	17
1919.								
January	10	....	1	11	97	11	108	9
February	13	....	1	14	95	10	105	9
March	12	1	1	14	95	10	105	9
April	10	1	1	12	96	10	106	9
May	9	1	1	11	91	11	102	10
June	11	1	1	13	87	12	99	10
July	9	1	1	11	87	13	100	13
August	8	1	1	10	93	14	107	14
September	7	1	1	9	82	13	95	14
October	8	1	1	10	87	12	99	13
November	8	1	2	11	89	12	101	12
December	8	1	2	11	92	11	103	12

UNITED STATES ARMY GENERAL HOSPITAL, FORT BAYARD, N. MEX.

Fort Bayard was situated in the southwestern part of New Mexico, 9 miles distant from Silver City and 3 miles from Bayard Station, both of which points were reached by branches of the Atchison, Topeka & Santa Fe Railway.[4]

The area of the reservation of Fort Bayard was approximately 19 square miles. On the north the land rises rapidly, reaching the height of 9,000 feet at Black Peak, and to the south of the post breaks away rapidly to the treeless plains. The elevation of the post proper was about 6,000 feet.[4]

Fort Bayard was first established in 1866. After the close of the war with Spain it was turned over to the Medical Department of the Army as a United States Army General Hospital for the care and treatment of tuberculous officers and soldiers.[4]

The feature which constitutes the peculiar excellence of the climate of Fort Bayard, and distinguishes it from other parts of the Rocky Mountain plateau, is its relative equability. It is warmer in winter than is Colorado, and it is cooler in summer than is Arizona, and outdoor life is pleasant throughout the year. Two factors contribute to secure this result—the altitude and the geographical position. The altitude, 6,165 feet, prevents excessive heat; the hot plains of a lower elevation, which surround on all sides the mountainous region in which Fort Bayard was situated, temper the cold winds of winter and prevent excessive cold.[5] While a temperature of 20° F. is not rarely met with in Colorado and is not unknown in northern New Mexico, the lowest tempera-

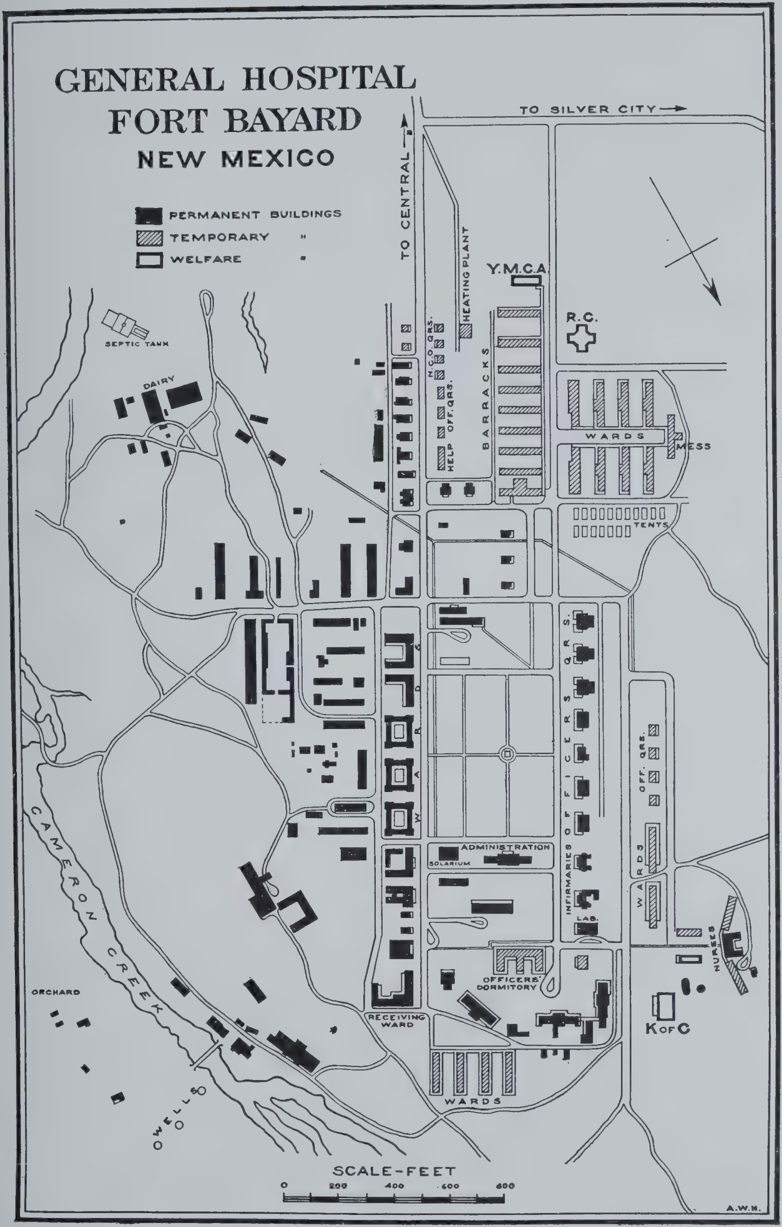
GENERAL HOSPITAL
FORT BAYARD
NEW MEXICO
PERMANENT BUILDINGS
TEMPORARY "
WELFARE "
TO CENTRAL
TO SILVER CITY
HEATING PLANT
Y.M.C.A.
R.C.
N.C.O. QRS.
HELP OFF. QRS.
BARRACKS
WARDS
MESS
TENTS
SEPTIC TANK
DAIRY
WARDS
OFFICERS QRS.
INFIRMARIES
ADMINISTRATION
SOLARIUM
LAB.
OFF. QRS.
WARDS
NURSES
K OF C
OFFICERS' DORMITORY
RECEIVING WARD
WARDS
CAMERON CREEK
ORCHARD
WELLS
SCALE-FEET
0
200
400
600
800
A.W.N.

Fig. 166.

ture of record at Fort Bayard was 3° F., and this temperature was recorded but once in 37 years. During the period of the Army occupancy of the hospital the days were usually clear in the winter; wraps were rarely required during exercise, and, in fact, the sun shone with such power that some patients could not long endure to sit exposed to its rays even in midwinter. The nights were relatively cold, the temperature usually falling below the freezing point, yet the cold portion of the night was so brief—the minimum temperature being usually reached near morning, when the dissipation of heat had continued for some hours—that the frost rarely remained after 10 a. m. in ground which was exposed to the sun.

Upon the declaration of war with Germany there were approximately 300 patients* at Fort Bayard.[6] Anticipating that there would be an enormous increment of patients with the increase in the size of the Army, steps were taken for the enlargement of the hospital at once; but the first of the new wards was not opened for occupation until the middle of February, 1918, followed in March by the opening of three more wards for bed patients.[7] On January 1, 1918, there were 467 patients at this hospital,[6] and the overcrowded condition was commencing to be acute. By February 1, 1918, the number of patients had increased to 505.[6] This situation was partially relieved by the opening, in March, of the three new wards mentioned above; but by this time the number of patients had increased to about 600,[6] and 12 hospital ward tents were erected for ambulant patients. On July 1, eight more wards and a new mess were placed in operation, these being known as the open-air wards. At this time the number of patients at the hospital was 991, and the hospital was still overcrowded. Six N–2 barracks for the enlisted personnel were opened on August 15, thus releasing the old detachment quarters, which were then converted into a receiving ward with a bed capacity of 90. At approximately the same time four sets of cantonment officers' quarters and nine sets of noncommissioned officers' quarters were opened.[8] An officers' dormitory for patient officers was opened in October, and at about the same time 20 framed and floored single tents for officers were placed in operation. During August two condemned wooden wards were repaired and remodeled and used for ambulant patients. Between October and December 24 hospital tents were erected and occupied. On December 1 there were 1,536 patients in the hospital.[6]

The necessity for the various increments in the bed space at this hospital, as in other tuberculosis hospitals, was largely determined by the tuberculosis section of the Surgeon General's Office. The requirements indicated by this section, with certain modifications, formed the basis of construction projects for tuberculosis hospitals. The design of these buildings was fixed by the War Department, but the location and grouping of the buildings were determined by local authority. They were distributed partly among the buildings already there and partly grouped in the southwest section of the hospital, to form a temporary hospital group more or less complete, with its own kitchen, mess, barracks, etc.

Considerable sums of money were required not only for new construction but for improvements in the interior of existing buildings, making the water supply more adequate, for other utilities, and for miscellaneous work. The total cost amounted to approximately $900,000.[9]

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* Figures for patients, as given in this paragraph, include those on a civilian status.

Statistical data, United States Army General Hospital, Fort Bayard, N. Mex., from April, 1917, to December, 1919, inclusive.[a]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
April	184	15	18	10	227	25	1	2	.....	.....	.....	.....	29	169	1	5,189	55
May	170	15	25	17	227	26	2	25	.....	.....	.....	.....	9	162	3	4,921	34
June	165	13	28	7	213	16	1	2	.....	.....	.....	.....	10	179	5	5,022	94
July	184	10	24	7	225	17	5	17	.....	.....	.....	.....	6	179	1	5,551	86
August	180	16	52	9	257	17	1	5	.....	.....	.....	.....	6	227	1	6,016	31
September	228	13	48	5	294	19	4	15	1	.....	.....	.....	7	245	3	6,428	44
October	248	13	57	5	323	20	1	13	.....	.....	.....	.....	2	284	3	8,341	49
November	287	24	33	15	359	21	8	9	.....	.....	.....	.....	6	315	......	9,002	19
December	315	24	40	7	386	33	2	12	.....	.....	.....	.....	9	329	1	9,046	31
1918.																	
January	330	24	61	12	427	31	7	20	.....	.....	.....	.....	8	361	......	11,496	31
February	361	26	74	4	465	26	5	15	.....	.....	.....	.....	5	413	1	10,845	28
March	414	61	102	1	578	50	7	6	.....	.....	.....	.....	12	503	......	13,921	......
April	503	63	128	......	694	80	16	24	.....	.....	.....	.....	11	563	......	15,984	30
May	563	64	162	......	789	94	8	28	.....	.....	.....	.....	23	636	......	18,033	25
June	636	48	307	7	998	37	4	36	.....	.....	.....	.....	14	907	......	5,857	8
July	907	43	170	13	1,133	44	7	44	.....	.....	.....	1	13	1,024	......	28,822	......
August	1,024	82	197	3	1,306	77	3	52	3	.....	.....	.....	13	1,158	......	36,047	......
September	1,158	54	146	8	1,366	94	3	21	.....	.....	.....	.....	7	1,241	......	38,466	......
October	1,241	164	216	14	1,635	281	11	.....	.....	.....	2	1	10	1,330	......	45,195	7
November	1,330	77	177	......	1,584	80	4	47	1	.....	.....	3	2	1,447	......	47,160	30
December	1,447	141	149	9	1,746	168	7	22	2	.....	.....	1	183	1,363	......	43,998	......
1919.																	
January	1,363	154	40	1	1,558	292	17	29	1	1	.....	250	13	955	......	35,525	18
February	955	65	67	2	1,089	124	10	61	1	.....	.....	250	1	642	......	20,496	36
March	642	64	79	20	805	62	10	48	.....	.....	.....	2	38	645	1	19,612	14
April	646	38	13	138	835	81	6	146	.....	.....	.....	25	35	541	1	17,861	91
May	542	42	55	45	684	38	14	53	.....	.....	.....	34	77	468	......	15,500	28
June	468	29	280	58	835	34	16	53	1	.....	.....	7	66	658	......	18,275	3
July	658	36	176	91	961	33	15	19	3	2	.....	4	30	855	......	23,176	4
August	855	31	24	5	915	34	6	14	3	.....	.....	13	51	794	......	13,491	63
September	794	15	106	53	968	28	8	26	2	9	1	8	71	815	......	24,066	123
October	815	37	21	61	934	41	14	27	2	20	.....	11	68	751	......	23,736	23
November	751	44	31	47	873	44	6	43	.....	10	.....	4	53	703	10	21,796	332
December	713	24	5	41	783	32	5	106	1	8	.....	5	45	580	1	21,656	62

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
April	69	39	37	145	September	75	60	72	207
May	69	39	37	145	October	81	63	73	217
June	69	39	37	145	November	83	63	73	219
July	69	39	47	155	December	80	65	70	215
August	69	39	47	155					
September	69	39	47	155	1919.				
October	69	39	48	156	January	80	65	70	215
November	68	40	50	158	February	81	71	72	224
December	68	42	51	161	March	122	81	74	277
					April	124	61	75	260
1918.					May	32	113	85	230
January	68	45	52	165	June	32	113	85	230
February	68	45	52	165	July	28	111	84	223
March	70	56	72	198	August	26	109	79	214
April	70	60	72	202	September	25	110	83	218
May	70	60	72	202	October	25	107	79	211
June	70	60	72	202	November	31	101	83	215
July	73	61	72	206	December	31	102	84	217
August	75	55	72	202					

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital, Fort Bayard, N. Mex., from April, 1917, to December, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
April	14	....	1	15	145	42	187	23
May	14	....	1	15	144	42	186	22
June	11	....	1	12	145	41	186	22
July	12	....	1	13	162	48	210	22
August	12	....	1	13	185	44	229	22
September	13	....	1	14	182	54	236	23
October	15	....	1	16	173	51	224	22
November	14	....	1	15	166	55	221	22
December	14	....	1	15	165	55	220	22
1918.								
January	15	....	1	16	166	55	221	22
February	16	....	1	17	189	58	247	41
March	20	....	2	22	215	73	288	42
April	20	....	2	22	227	72	299	42
May	20	....	3	23	278	66	344	44
June	24	....	3	27	281	65	346	48
July	24	....	6	30	382	70	452	52
August	27	....	7	34	334	96	430	53
September	28	....	6	34	404	95	499	55
October	26	2	8	36	403	95	498	57
November	31	6	8	45	501	110	611	73
December	31	8	8	47	604	144	748	86
1919.								
January	35	9	10	54	573	154	727	77
February	35	10	12	57	512	157	669	89
March	30	11	16	57	495	142	637	85
April	28	11	16	55	509	134	643	73
May	30	11	17	58	448	113	561	70
June	30	12	17	59	353	58	411	67
July	29	10	19	58	312	48	360	72
August	27	7	20	54	300	61	361	71
September	24	5	17	46	294	58	352	68
October	19	3	8	30	358	50	408	69
November	19	5	8	32	313	50	363	69
December	18	6	8	32	311	49	360	66

LETTERMAN GENERAL HOSPITAL, PRESIDIO OF SAN FRANCISCO, CALIF.

In 1898, when the Eighth Army Corps assembled at San Francisco, and during the period of its organization, the hospital service for the troops was performed under canvas, but the climate proving unfavorable for this method of accommodation, the new brick barracks at the Presidio were assigned for use pending suitable construction for hospital purposes. A general hospital was organized on December 1,[10] 1898, in these buildings, and steps were at once taken for the construction of a hospital. The plan most suited to the purpose was that of an architect of San Francisco, said to be based on that of the Lariboisière, Paris, and was adapted to the military service. The general plan of the hospital can best be described as a quadrangle formed by a veranda, onto which abutted all the buildings, except the administration building which occupied a greater part of the front, with quarters on either side the buildings for male and female nurses.[10]

The primary purpose of the hospital was the care of sick and wounded invalided home from the Philippine Islands. This was later made to include those requiring hospitalization from the Hawaiian Islands and Alaska, as well as from the troops in the vicinity of the hospital.

Originally known as General Hospital, San Francisco, General Order No. 152, War Department, November 23, 1911, caused a change in its designa-

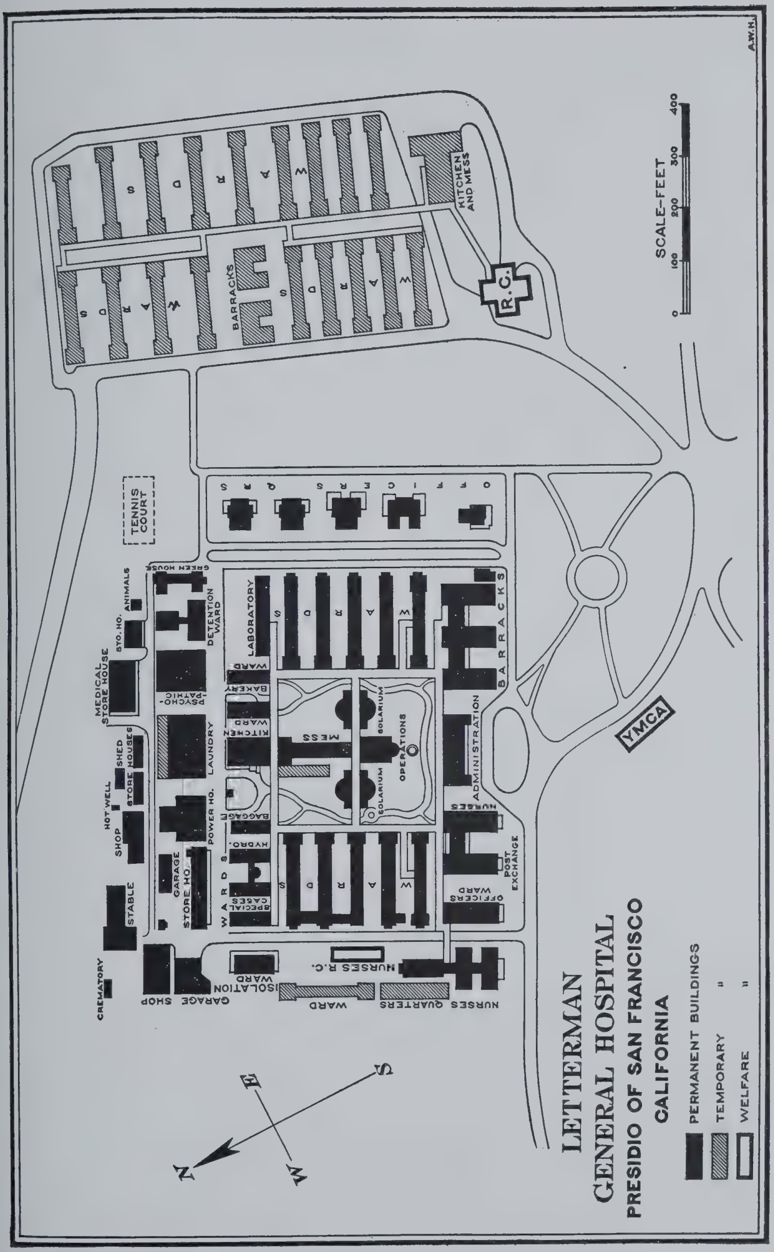
LETTERMAN
GENERAL HOSPITAL
PRESIDIO OF SAN FRANCISCO
CALIFORNIA
PERMANENT BUILDINGS
TEMPORARY "
WELFARE "
SCALE-FEET
0
100
200
300
400
A.W.N.
N
S
E
W
BARRACKS
WARDS
KITCHEN AND MESS
R.C.
TENNIS COURT
OFFICERS QRS
YMCA
BARRACKS
LABORATORY
WARD
BAKERY
WARD
KITCHEN
MESS
SOLARIUM
OPERATIONS
SOLARIUM
ADMINISTRATION
NURSES
BAGGAGE
HYDRO.
WARDS
SPECIAL CASES
POST EXCHANGE
OFFICERS WARD
NURSES R.C.
NURSES QUARTERS
WARD
ISOLATION WARD
GARAGE
SHOP
CREMATORY
STABLE
STORE HO.
GARAGE
SHOP
HOT WELL
STORE HOUSES
SHED
POWER HO.
LAUNDRY
PSYCHO-PATHIC
MEDICAL STORE HOUSE
STO. HO.
ANIMALS
DETENTION WARD
GREEN HOUSE

Fig. 167.

tion to Letterman General Hospital, in honor of Jonathan Letterman, who served in the War of the Rebellion as medical director, Army of the Potomac.

Located directly on the reservation of the Presidio of San Francisco, its surroundings were highly attractive and constantly maintained in excellent condition.

At the time the United States entered the World War the Letterman General Hospital was a well-organized and smoothly functioning institution of 400 beds capacity,[11] in view of which fact no difficult problems of organization arose, it being necessary only to expand.

Twenty-six new buildings, mostly wards, were added during the war. Unlike the general hospital at Fort Bayard, the major portion of the temporary buildings were installed en bloc,[12] and early in the war. The added buildings were of temporary construction with but one exception: special representations were made by the Surgeon General to secure a permanently constructed psychiatric ward, and this was approved.[13] Practically all of the new construction was put up as a detached group comprising wards, kitchen, mess, barracks, facilities for recreation, etc. By January, 1918, the hospital was reporting a capacity of 1,100 beds.[11] Its maximum emergency capacity of 2,200 beds was reached in July, 1919, when the sick numbered 1,800,[a] those in excess of 1,200 occupying emergency expansive space.[11]

From April, 1917, to May, 1918, inclusive, the activities of the hospital were not greatly in excess of those of normal peace time.[11] Patients from France began to arrive about August, 1918, and the number in hospital continued to increase until August, 1919, afterwards gradually decreasing and approximating a pre-war number at the end of 1919.[11]

Statistical data, Letterman General Hospital, Presidio of San Francisco, Calif., from April, 1917, to December, 1919, inclusive.[b]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.				
			By transfer.	Otherwise.										Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
April	338	23	296	75	732	291	5	37	.....	1	.....	6	.....	374	18	11,434	470
May	392	34	513	57	996	344	9	58	.....	2	.....	14	98	461	10	13,622	405
June	471	46	557	70	1,144	403	11	66	1	.....	22	15	119	497	10	14,698	246
July	507	42	497	91	1,137	378	4	44	1	.....	1	7	127	574	1	15,871	306
August	575	40	853	130	1,598	696	6	122	.....	.....	6	13	136	619	.....	17,415	126
September	619	27	807	113	1,566	681	6	66	.....	.....	.....	8	101	699	5	19,408	181
October	704	32	817	126	1,679	630	7	151	2	.....	8	6	123	746	6	25,238	244
November	752	54	590	125	1,521	558	7	113	.....	.....	2	3	104	730	4	22,491	140
December	734	42	704	144	1,624	496	8	152	.....	1	15	3	105	838	6	19,060	151
1918.																	
January	844	50	776	109	1,779	745	14	140	.....	.....	.....	3	90	777	10	10,185	17
February	787	30	567	81	1,465	525	7	94	.....	.....	.....	4	78	755	2	21,317	205
March	757	54	580	125	1,516	522	2	94	.....	.....	.....	3	114	773	8	22,344	351
April	781	41	715	128	1,665	614	13	92	1	.....	1	3	120	810	11	25,143	259
May	821	29	571	133	1,554	500	2	59	.....	.....	.....	4	128	855	6	26,540	297
June	861	26	953	124	1,964	699	4	37	.....	.....	.....	2	101	1,108	13	5,183	289
July	1,121	40	873	158	2,192	851	9	47	.....	.....	.....	4	149	1,124	8	36,114	213
August	1,132	34	567	146	1,879	630	7	55	3	.....	.....	.....	138	1,042	14	31,845	227
September	1,056	21	327	103	1,507	565	6	57	1	.....	2	5	96	758	17	25,839	297
October	775	120	1,009	176	2,080	716	44	42	1	.....	.....	.....	135	1,114	18	30,575	421
November	1,132	54	470	108	1,764	729	33	43	.....	.....	.....	5	168	770	16	26,101	415
December	786	64	920	173	1,943	619	19	132	.....	.....	.....	6	276	886	5	27,782	449

[a] Including patients on a civilian status.

[b] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital, Presidio of San Francisco, Calif., from April, 1917, to December, 1919, inclusive—Continued.

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1919.																	
January	891	91	943	232	2,157	744	19	82				16	260	1,001	35	31,842	899
February	1,036	53	629	202	1,920	520	16	89				1	224	1,026	44	28,305	1,161
March	1,070	52	659	211	1,992	433	5	84	1			16	249	1,143	61	33,837	1,502
April	1,204	50	655	244	2,153	414	9	156			1	11	274	1,217	71	36,903	2,361
May	1,288	54	686	242	2,270	412	8	164	1			16	284	1,302	83	40,780	2,149
June	1,385	40	802	218	2,445	529	9	191	1			10	294	1,332	79	40,901	4,039
July	1,411	52	941	316	2,720	603	12	203	1			16	397	1,390	98	45,097	2,518
August	1,488	63	890	310	2,751	688	7	179	2			5	277	1,493	100	46,604	1,578
September	1,593	58	410	222	2,283	518	6	166				10	193	1,296	94	44,147	1,184
October	1,390	60	594	186	2,230	474	5	187	2			13	220	1,301	28	70,451	3,774
November	1,329	71	375	185	1,960	461	8	160	2	1		22	133	1,144	29	61,198	2,946
December	1,173	67	377	153	1,770	366	4	80	1			10	276	982	51	33,252	1,433

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
April	23		1	24	178	12	190	48
May	28			28	177	16	193	53
June	24			24	280	17	297	57
July	22			22	290	17	307	68
August	30		2	32	302	18	320	67
September	24		1	25	305	27	332	59
October	27		1	28	302	26	328	66
November	28		1	29	307	31	338	72
December	26	1	1	28	330	32	362	74
1918.								
January	27		1	28	321	31	352	84
February	32		1	33	350	32	382	104
March	35		1	36	356	36	392	100
April	35		2	37	340	37	377	103
May	35		2	37	341	39	380	104
June	34		2	36	386	38	424	123
July	41	1	3	45	405	42	447	136
August	48	3	4	55	415	45	460	150
September	44	4	8	56	412	48	460	133
October	45	6	2	53	411	49	460	149
November	48	6	3	57	371	78	449	231
December	47	10	4	61	533	125	658	182
1919.								
January	48	11	2	61	509	119	628	141
February	54	11	10	75	480	118	598	130
March	59	11	10	80	636	101	737	127
April	61	14	13	88	576	92	668	107
May	52	12	14	78	529	91	620	77
June	51	11	15	77	517	87	604	81
July	60	10	9	79	515	79	594	98
August	59	11	10	80	514	94	608	104
September	57	13	10	80	549	100	649	117
October	56	7	9	72	523	112	635	126
November	64	8	11	83	568	118	686	118
December	59	9	12	80	461	113	574	113

GENERAL HOSPITAL NO. 1, WILLIAMSBRIDGE, NEW YORK CITY.

A unique feature of General Hospital No. 1 was its origin in Columbia War Hospital with its inception antedating the declaration of war. On Thursday, March 29, 1917, a tentative plan for Columbia University to aid the medical and surgical defense of New York was conceived, and on April 6, 1917, was published in the *New York Times*, coincidentally with the President's proclamation of war.[14]

On April 2, 1917, authority was given by the trustees of the university to erect an emergency war hospital on the so-called Williamsbridge, or Gun Hill Road, property, belonging to the University, provided the funds necessary for the purpose could be raised by gift. The necessary funds, amounting to nearly $300,000, were obtained by subscription in a very short time, and on May 30, 1917, the first unit of the hospital was ready for service.[15]

This hospital comprised a number of separately located buildings or congeries of buildings. The "main hospital," as it was locally called, consisted of the series of temporary structures at the northeastern corner of Gun Hill Road and Bainbridge Avenue, Borough of the Bronx. It was about 12 miles from Washington Square and was accessible to trolley, elevated railway, subway, and the railroad. Its location was such, however, that it was without the boundaries of the congested portion of the metropolis, thus making for a most ideal place for a hospital in greater New York. Opposite the main hospital, on Gun Hill Road, was the Montifiore Private Pavilion, a modern brick structure, which was used for the care of officer patients. Three miles distant from the hospital was the Messiah Home, located at One hundred and seventy-seventh Street and University Avenue, New York City, used as a special ward. In the Bloomingdale Hospital for mental cases, in White Plains, N. Y., at a distance of 18 miles from the hospital, 50 beds were reserved. A home at Riverdale-on-the-Hudson was maintained for the care of convalescent nurses. Thus, it will be seen there were five geographically separate parts of General Hospital No. 1.[15]

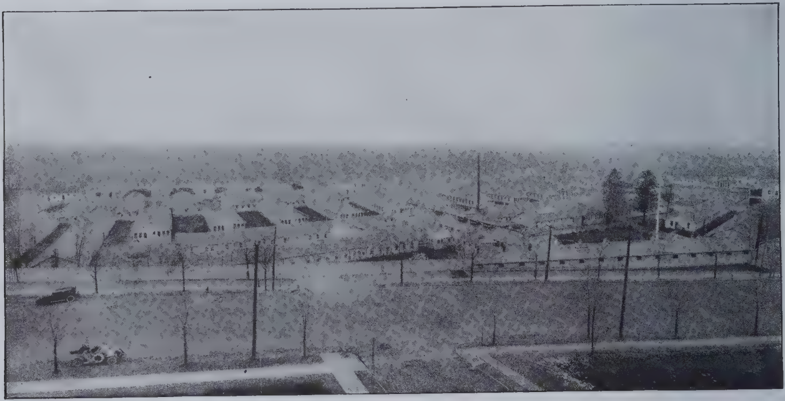

FIG. 168.—General Hospital No. 1, Williamsbridge, New York City.

THE MAIN HOSPITAL.

The principal buildings of this group were located on fairly high ground and spread over an area of about 10 acres. The original buildings were erected by private donations and were composed of sections so assembled as to be readily taken apart for assembling elsewhere. The work on these buildings began early in June, 1917, the original structures comprising 26 single-story wards, a kitchen, and mess hall, and eight other buildings, the bed capacity of the hospital being rated as 500.[15]

On June 15, 1917, Columbia University tendered the War Department the use of the Columbia War Hospital.[16] This offer was accepted by the War Department upon the recommendation of the Surgeon General; [17] a nominal lease was secured, and the hospital was designated General Hospital No. 1.[18]

Because of the necessity for increasing hospital accommodations in the United States, it was decided to enlarge this hospital to 1,000 beds, and plans were prepared for a rapid expansion. There was an immediate and imperative need for additional ground and it was necessary to trespass upon the property of the Woodlawn Cemetery, adjoining the hospital grounds on the north. Permission had been requested from the cemetery authorities to use a portion of their unimproved land for the erection of temporary wards for the war period, but this request was met by a refusal and peremptory demand to quit the property. However, there was reason to feel that this action on their part was not in keeping with their sympathies; that it was prompted by the provisions of their charter; and, pressed by the necessity to enlarge this hospital to more useful and efficient proportions, the Medical Department proceeded, after informal agreement, with the erection of temporary wards upon their property.[15]

In March, 1918, the War Department began the construction of 18 single-story wards and a one-story frame barracks for the detachment, Medical Department. In the meantime the construction of large steam heating plants had been started, and was completed in the early part of the year 1918. A year later the War Department constructed 2 two-story stuccoed, hollow-tile barracks.[15]

The physical property of the hospital consisted of a group of 43 one-story frame wards; 1 two-story frame barracks; 2 two-story stuccoed, hollow-tile barracks; 2 one-story frame barracks; 20 one-story frame buildings for the various activities of the hospitals, such as the operating pavilion, receiving room, kitchens, mess halls, laundry, post exchange, warehouses, etc.; one concrete heating plant, and 2 two-story frame buildings, one used as headquarters and the others as the officers' club.[15]

The following buildings were of portable framework: Wards 13 to 25, inclusive; wards 31 to 41, inclusive; the office of the detachment, Medical Department; the sick and wounded officers; the supply and finance officers; two barracks for the enlisted personnel; and the two mess halls. The quartermaster storehouse, the laundry, the main kitchen, the operating room, and the garage were of portable steel construction. Wards 26 to 30 and 42 to 54, 1 two-story frame barracks, 2 two-story hollow-tile barracks, the personnel office, and the steam heating plant and system were constructed by the War Department.[15]

MONTIFIORE PRIVATE PAVILION.[15]

The Montifiore Home, of New York City, generously proferred the Government the use of its private pavilion for the care of officer patients. It was taken over by the War Department on September 1, 1918, at the nominal rent of $1 per month. This building was located just across the street from the hospital and was a most comfortable, five-story brick structure, with ample accommodations for 110 patients. It comprised private rooms, or suites of two rooms with baths. Each floor had a modern kitchenette, with gas range, ice box, dumb waiter, etc. On the main floor there were a spacious dining room and kitchen, and a large lobby, wherein convalescent patients and their visitors could sit, and entertainments could be given. In the basement there were a laboratory, an occupational department, a very costly and modern hydrotherapy equipment, as well as storerooms. The Montifiore Home proved to be a most valuable asset to the hospital, in which were cared for hundreds of officer patients.

MESSIAH HOME.[15]

The Messiah Home was located at the southwestern corner of University and Tremont Avenues, and was operated as ward 55 of the hospital. Like the Montifiore Home it was obtained at a nominal rental of $1 per month, and was turned over to the Government by the Catholic War Council. The building was of brick and granite, was four storied, and had accommodations for 200 patients. It was remodeled to provide wards with kitchenettes, mess hall, receiving and entertainment rooms, etc., and was used as the psychiatric department of the hospital. It served, in addition, as a clearing hospital for special neuropsychiatric patients returning from overseas. Opening on November 22, 1918, it subsequently cared for approximately 3,000 neuropsychiatric patients debarked from the American Expeditionary Forces.

CAMP ESTATE.[15]

Adjoining the Messiah Home was the Camp Estate, which was also leased from the Catholic War Council. The two residences on this estate were used for quarters for the nurses and enlisted men on duty at the Messiah Home.

BLOOMINGDALE HOSPITAL.[15]

Almost from the incipiency of the hospital it was apparent that some special place would have to be procured in the port of New York in which officer patients with acute mental condition could be adequately cared for. Accordingly, the Surgeon General made arrangements at the Bloomingdale Hospital, White Plains, N. Y., for the care of as many as 50 mental cases at this hospital. This foresighted arrangement proved very satisfactory, for the hospital was exceedingly well arranged, beautifully situated, and surrounded by large well-kept grounds, where the patients were excellently cared for. The first patient was admitted May 2, 1918, and the total number of admissions was approximately 90. The patients were cared for partly by the physicians in charge of the institution and partly by medical officers assigned to General Hospital No. 1. Charges for the patients were at the rate of $35 a week.

RIVERDALE-ON-THE-HUDSON.[15]

Through the generosity of its owner, Riverdale-on-the-Hudson, a sumptuous home, was tendered the Government for use in the care of convalescent nurses. The house was given rent free, and subsistence for the nurses was furnished at the expense of the owner. The residence was a stone structure, beautifully located on the banks of the Hudson, and had accommodations for 24.

While in the home, the nurses were under the professional and administrative care of General Hospital No. 1.

Owing to the great need of beds in New York City for debarking sick and wounded, General Hospital No. 1 operated for the greater part of the period of its existence as a debarkation hospital under the control of the commanding general, Port of Embarkation, Hoboken, N. J.[15]

General Hospital No. 1 was especially equipped to care for drug addicts, epileptics, insane officers, mental defectives, those with organic diseases of the nervous system, orthopedic patients, and patients with peripheral nerve, brain, and spinal-cord injuries.[15]

The principal structural defect of the hospital was that the portable buildings, originally built for the Columbia War Hospital, were stove heated, and were not only bad fire risks but were too loosely put together to permit the successful installation of a steam heating system. Considerable expenditures were required to keep the buildings from falling apart.[15]

Statistical data, United States Army General Hospital No. 1, Columbia War Hospital, Williamsbridge, New York City, N. Y., from July, 1917, to October 15, 1919, inclusive.[a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
August	......	7	......	......	7	7	......	......	......	......	......	......	......	......	......	......	12
September	......	10	63	3	76	18	......	......	......	......	......	......	3	55	......	425	2
October	55	7	329	49	440	38	1	3	......	......	......	......	3	395	......	5,344	......
November	395	17	503	29	944	139	1	31	1	......	......	265	7	498	2	11,189	20
December	500	37	312	111	960	330	1	35	3	......	4	51	12	523	1	15,739	75
1918.																	
January	524	27	100	185	836	237	5	38	6	......	5	203	18	324	......	10,760	2
February	324	46	699	57	1,126	223	2	40	3	......	3	312	18	525	......	14,759	21
March	525	7	928	157	1,617	722	11	64	7	......	......	46	53	712	2	22,985	69
April	714	67	442	146	1,369	430	11	76	6	......	......	31	31	784	......	22,059	101
May	784	56	238	127	1,205	438	5	84	8	......	......	38	62	569	1	20,103	24
June	570	34	254	188	1,046	249	4	57	1	......	......	16	87	631	1	17,375	33
July	632	62	346	266	1,306	428	1	64	......	......	......	33	107	671	2	19,910	58
August	673	68	360	351	1,452	468	4	81	1	......	......	53	129	716	......	......	......
September	716	81	302	476	1,575	512	6	62	......	......	......	57	40	897	1	21,822	31
October	898	161	384	746	2,189	1,197	61	38	2	......	......	60	65	755	11	28,210	45
November	766	43	232	505	1,546	561	11	56	1	......	......	84	116	687	30	13,091	287
December	717	77	257	993	2,044	715	2	94	......	......	......	75	271	861	26	25,837	791
1919.																	
January	887	109	284	552	1,832	607	17	63	4	......	......	116	84	917	24	27,603	1,125
February	941	63	248	460	1,712	466	5	63	2	......	......	137	74	943	22	25,470	646
March	965	79	272	495	1,811	497	8	37	5	......	......	95	121	1,027	21	30,458	686
April	1,048	51	150	397	1,646	371	3	77	......	......	......	111	168	903	13	28,703	413
May	916	34	279	261	1,490	322	6	69	1	......	......	245	142	698	7	26,550	......
June	705	33	119	245	1,102	213	3	58	1	......	......	65	101	644	17	21,577	597
July	661	28	216	210	1,115	150	6	36	......	......	......	127	169	627	......	7,064	61
August	627	37	95	167	926	152	4	60	1	......	......	75	157	477	......	17,146	......
September	477	39	86	229	831	157	2	46	......	......	......	91	59	476	......	16,005	80
October	476	11	......	28	515	102	2	58	......	......	......	328	25	......	......	3,642	20

[a] Compiled from monthly returns, and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., "E. E." Misc. Div.)

Statistical data, United States Army General Hospital No. 1, Columbia War Hospital, Williamsbridge, New York City, N. Y., from July, 1917, to October 15, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1919.					1919.				
May	92	26	....	118	August	20	61	....	81
June	92	26	....	118	September	35	59	....	94
July	18	59	....	77	October	69	43	....	112

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
July	2	....	....	2	27	....	27	....
August	5	....	....	5	39	....	39	....
September	7	1	1	9	69	9	78	7
October	11	1	2	14	110	10	120	20
November	14	1	1	16	163	12	175	25
December	27	2	1	30	191	24	215	34
1918.								
January	22	2	1	25	189	23	212	41
February	32	2	1	35	239	44	283	48
March	51	3	3	57	291	90	381	71
April	56	3	3	62	436	99	535	102
May	58	4	3	65	393	93	486	130
June	58	2	3	63	378	92	470	134
July	62	3	2	67	369	94	463	133
August	62	5	2	69	465	95	560	112
September	70	5	2	77	417	95	512	150
October	59	6	3	68	431	72	503	145
November	67	8	4	79	467	70	537	153
December	74	10	4	88	498	93	591	128
1919.								
January	73	9	5	87	555	107	662	107
February	79	8	5	92	491	111	602	112
March	81	9	5	95	522	102	624	113
April	79	9	3	91	481	83	564	126
May	72	8	3	83	458	62	520	124
June	58	10	5	73	437	29	466	131
July	45	12	4	61	427	1	428	138
August	51	....	3	54	409	5	414	145
September	32	....	....	32	363	6	369	104
October	4	....	....	4	1	....	1	1

GENERAL HOSPITAL NO. 4, FORT PORTER, BUFFALO, N. Y.

General Hospital No. 4 was located at Fort Porter, N. Y., in the city of Buffalo, between Massachusetts and Connecticut Streets, on the north and south, and Front Street and Niagara River on the east and west. Being situated on a 60-foot bluff at the northeast end of Lake Erie, where the lake opens into its outlet, the Niagara River, the site commanded an excellent view of Lake Erie, Niagara River, and the Canadian shore. The reservation covered about 28½ acres and was practically a continuation of the north end of one of Buffalo's parks, "The Front."

Fort Porter had been an Infantry garrison, and there were about 40 post buildings comprising 20 sets of quarters for officers and noncommissioned officers, four barracks, a hospital, several storehouses and magazines, a headquarters building, a bakery, stables, sheds, etc. These buildings faced either outwardly upon the surrounding city streets, or inwardly upon two open areas—the drill ground and the parade ground. The post used the light, sewerage, and water systems of the city of Buffalo, and the buildings were heated, for the most part, by separate steam-heating plants.[19]

The hospital site was exposed to much high wind, principally winds from the southwest and west. The winters were severe, with sudden changes in temperature, but the summers were delightfully cool. The average temperature for the entire year was 48°.

On October 16, 1917, the Surgeon General requested the use of Fort Porter for general hospital purposes.[20] This request was approved by the Secretary of War 10 days later, and on November 10 the post was named General Hospital No. 4, and as such was opened at once.[21] Some renovation, repair, alterations, and additions had already been instituted by the Surgeon General, but considerably more was necessary. No great expansion was contemplated because of the limited area available, and plans for remodeling were left to the local commander.

In the spring of 1918 the commanding officer of the hospital furnished the Surgeon General a plan of development, which plan was approved by the War Department only in part, and construction based on the modified plan was requested. As it was impossible to economically make a large hospital at the place, it was decided to develop only the existing buildings and use the hospital for the special treatment of the insane.[22] Meanwhile, improvements and alterations were being accomplished. Compared with other general hospitals, relatively little construction work was done here, and the most of it was accomplished in the later months of 1917 and the early months of 1918. During this time the hospital had been fully operating as a general hospital; and subsequent to November 10, it had been caring for the sick except during a period of two weeks in January, 1918, when it was closed for repairs. At first, general medical and surgical cases of a minor character were sent to this hospital for treatment; later, its activities were restricted to the care of mental cases only, the first patients of this class being admitted in February, 1918.[23] Later still, after better facilities for the treatment of the insane had been provided at General Hospital No. 43, Hampton, Va., all mental cases were transferred from General Hospital No. 4 to that hospital, and the treatment of neuroses only was continued at General Hospital No. 4, until the date of its closure, November 9, 1919.[24]

Statistical data, United States Army General Hospital No. 4, Fort Porter, N. Y., from November, 1917, to October, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
November		13	12		25	8						10	7			204	
December	7	17		20	44	26		5						13		485	
1918.																	
January	13	9		11	33	25	1	3					1	3		246	13
February	3	5	27	6	41	6		1						31	3	155	19
March	34	17	28	3	82	24		5					1	52		1,930	
April	52	35	38	5	130	60	2	30				1		36	1	1,340	15
May	37	9	97	2	145	27		27				2		89		1,944	3
June	89	7	69	7	172	16	1	26				2	1	126		3,223	
July	126		95	16	237	18	1	45				4	1	168		4,736	
August	168	20	125	9	322	42	1	55			13	3		206	2	5,949	28
September	208	30	112	11	361	46		35			45	2		228	5	6,598	85
October	233	71	173	17	494	160	9	50	1		15		2	250	7	9,385	353
November	257	23	249	14	543	52	5	57			141		6	280	2	7,579	144
December	282	17	242	7	548	38		37	3		30	204	1	234	1	6,354	38
1919.																	
January	235	46	54	6	341	55	2	40	1		1	4	4	228	6	6,767	161
February	234	35	90	3	362	94	1	43			5	36	2	181		7,069	
March	181	48	82	7	318	34	2	10			2	4	2	261	3	8,275	149
April	264	70	43	4	381	74	2	22			2	11	3	263	4	7,755	176
May	267	51	91	7	416	53	2	22				10	1	320	8	8,038	96
June	328	27	79	4	438	50	1	73	1			119		193	1	7,871	101
July	194	34	174	8	410	119		81				15		193	2	6,546	53
August	195	23	100	2	320	93		69	1			10		145	2	5,660	45
September	147	22	42	2	213	30		57				7		118	1	6,446	76
October	119	10	5	2	136	20	1	54				59	2				

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					**1919.**				
February	1	34	12	47	January	1	50	6	57
March	1	34	12	47	February	1	49	5	55
April		32	16	48	March	1	59	5	65
May		33	16	49	April	1	54	5	60
June		34	16	50	May	40	50	7	97
July		33	14	47	June	13	64	4	81
August		35	15	50	July	6	49	4	59
September	1	30	17	48	August	13	64	4	81
October		47	15	62	September	13	64	4	81
November		50	15	65	October	0	0	0	0
December		54	6	60					

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[a] Compiled from monthly returns, and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 4, Fort Porter, N. Y., from November, 1917, to October, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
November	4	....	....	4	22	35	57	....
December	5	1	1	7	22	32	54	....
1918.								
January	6	2	1	9	37	28	65	....
February	5	2	1	8	51	33	84	12
March	8	2	1	11	114	39	153	12
April	10	2	2	14	127	46	173	11
May	10	2	2	14	148	45	193	15
June	11	2	2	15	172	45	217	15
July	13	2	2	17	151	55	206	14
August	10	4	3	17	144	54	198	15
September	10	4	3	17	142	56	198	15
October	12	4	2	18	170	48	218	15
November	11	5	2	18	165	55	220	41
December	12	5	3	20	168	65	233	34
1919.								
January	11	5	3	19	193	72	265	33
February	19	5	3	27	195	72	267	31
March	17	5	4	26	262	60	322	29
April	18	5	5	28	254	54	308	37
May	19	5	5	29	246	39	285	32
June	19	3	5	27	235	27	262	37
July	21	3	3	27	233	14	247	34
August	20	3	3	26	200	26	226	30
September	16	2	4	22	177	35	212	28
October	6	2	1	9	36	37	73	27

GENERAL HOSPITAL NO. 5, FORT ONTARIO, N. Y.

Fort Ontario is located in the city of Oswego, county of Oswego, New York State, at the mouth of the Oswego River. The Oswego River, the southwestern boundary of the reservation, empties into Lake Ontario. The lake is the north and northwestern boundary of the reservation, and the city of Oswego, on the south, is the southeastern boundary.[25]

The tract owned by the Government at Fort Ontario comprises 55 acres. It is about 275 feet above sea level and was graded and filled to a depth of about 6 feet. The contour of the land is such, ranging in elevation from 50 feet above the level of Lake Ontario, at the northwest corner, to 18 to 20 feet above the lake level along the eastern boundary, that it has a natural drainage.[25]

Fort Ontario was built by the English under Governor Shirley, in 1755, captured and destroyed by the French under Marquis de Montcalm, in 1756, rebuilt by the English under Lord Amherst, in 1759, destroyed by the Americans about 1788, and again rebuilt by the English in 1792 and surrendered by them to the Americans in 1796, it being the last military post to be evacuated by the English in the United States after the War of the Revolution.[25]

Ever since the year 1796 Fort Ontario has been a United States military post, garrisoned by United States troops, and the site upon which it was located has been owned by the United States Government. During the year 1814 it was captured and destroyed by an English fleet under Admiral Yeo, and was rebuilt of earth and timber construction by the United States Government in the year 1839. It was again rebuilt of stone and concrete construction about 1863. As constructed in 1839 and reconstructed in 1863, the post occupied only a small part of the tract of land owned by the Government, and that part which was utilized was situated in the northwest corner of the reservation and was referred to as the "Old Fort." In 1903 the reservation property was again improved; the "Old Fort" was abandoned and practically all that part of the land which had previously been used was filled and regraded and utilized either as building sites, for roads, or for the parade ground. New buildings of brick structure were erected, water lines and sewage systems were installed, and the capacity of the post was increased to accommodate a battalion of Infantry.[25]

Being located on the shore of Lake Ontario in rather an exposed position, Fort Ontario was subjected to high winds from off the lake; in winter it was usually quite cold, with considerable snow, though in summer a moderate temperature obtained.

The country surrounding the fort was of the rolling, partially wooded type, and was principally farm land.

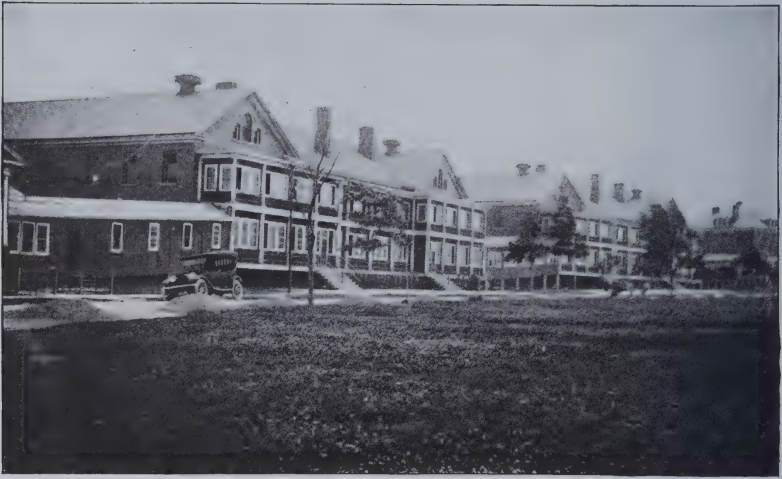

FIG. 169.—Portion of General Hospital No. 5, Fort Ontario, N. Y.

The soil was a mixture of gravel and lime, of rather a clay type, and there was very little dust in dry weather or mud in rainy weather. The grounds of the reservation were cultivated and covered with a good variety of grass.

The roads of the reservation were macadam, a crushed stone base with an oil binder, and were well kept. Those of the city were brick, concrete, macadam, or good dirt roads. There was but one main stream in the vicinity, the Oswego River.

The parade ground, located in the center of the post, was about 600 feet wide and extended from a point about 800 feet from the southwest corner to a point about 800 feet from the northwest corner of the post.

The post of Fort Ontario made a desirable place for hospital purposes; and on July 3, 1917, the Secretary of War, upon request of the Surgeon General, authorized the use of "such barracks as may be necessary for base or general hospital purposes."[26] On the day of the approval of his request the Surgeon General wired the surgeon, Eastern Department, to direct the post surgeon, Fort Ontario, to plan a base hospital and to make telegraphic request for necessary additional buildings. In the late summer work on remodeling and improving the existing buildings was begun. In the fall some common wards, X-ray facilities, additional barracks, and a heating plant were authorized.[27]

On March 1, 1918, a fairly comprehensive schedule of construction was called for, consisting of a receiving building, a laboratory, an operating pavilion, a mess and kitchen, an officers' ward, barracks and wards planned to add 280 beds to the hospital capacity. This request came from the field and was estimated to cost $131,922. Twelve days later the cantonment division of the Quartermaster General's Office informed the Surgeon General that $145,300 would be required. The expenditure of this amount was approved. On April 23, due to a change in the wording of the appropriation, it was necessary to return the approved request to the Surgeon General's Office for the approval of a still greater sum. By this time 10 per cent had to be added to the estimated cost, due to an increase in prices since the project was initiated March 1, increasing the total to $192,910. This sum was approved by the Surgeon General's Office and the request returned for construction May 3,[28] and on June 10 actual construction work began. In August additional construction, buildings, corridors, the installation of equipment, etc., caused the total expenditures to be $281,550.[29]

In all, 30 new buildings of frame material were constructed. They were located by local authority and so placed about, and at the rear of, existing buildings that the parade ground remained free for recreation purposes, and the whole was connectible by closed corridors.

The permanent barracks buildings and other post buildings were of stone foundation, brick buildings with slate roofs. The buildings put up as additional for hospital use were of the standard temporary construction used in all camps. The operating pavilion was located on the first floor of one of the permanent barracks buildings and consisted of three operating rooms, anesthetizing rooms, sterilizing room, instrument room, scrub-up rooms for officers and one for nurses, linen closets, and a recovery ward, completed September 1, 1918.[30] All the construction authorized was completed by January 22, 1919.

The water used at Fort Ontario was purchased from the water department of the city of Oswego and supplied from water mains extended from the city mains. The water was obtained from Lake Ontario, the intake pipe being about 1 mile from the shore, from which place it was pumped to the pumping station, where it was oxygenated by spraying into a reservoir and chemically treated by the chlorination method.[31] This water was piped to all wards. Water lines were extended to supply the newly constructed buildings and to furnish a greater supply of water to the hydrants for fire protection.

The sewerage system in existence was extended so that all newly constructed buildings were properly provided for. The main sewer was sufficient in size to take care of the extensions and additions to the system.[32]

In the beginning, before the mess halls and kitchens had been erected, the detachment and patients' messes were separate, one barracks building being used as a mess and kitchen for the detachment, while one ward in the permanent barracks building, which was supplied with stoves, was used as the patients' kitchen and mess hall.[33] Later a large building was completed, which contained a kitchen, diet kitchen, and mess hall, with accommodations for about 700 persons at one time. The detachment and patients then messed in the same hall and the menu only was different. Bed patients confined to wards were fed also from the main mess hall.[34] The carriers used were large containers built on the thermos principle for the purpose of keeping food hot or cold as the case might be. Mess for all patients was under the observation of the ward surgeon and all messes were under the direction of the mess officer.

The officers' quarters comprised seven brick buildings, six of which were double houses, and a single house used by the commanding officer. Under ordinary circumstances these quarters were used for 13 officers and their families; however, with the large number of officers at this post they were divided up so that a few married officers with their families were assigned two or more rooms and single officers one room.

At first the nurses were quartered in two of the officers' quarters[33] but subsequently nurses' quarters were erected,[30] which in addition to one of the officers' quarters caused only one or two nurses, rarely more, to occupy one room.

The detachment, enlisted personnel, was quartered at first in the permanent barracks, and later, when these were required for wards, the new temporary barracks were used,[33] each having a capacity of 46 men. At one time it was necessary to establish a camp for the use of the detachment and the men were then quartered in tents.

This hospital functioned as a general hospital for the treatment of medical, surgical, and venereal cases,[35] and as a reconstruction hospital. On September 1, 1919, it ceased to exist as a general hospital.

Statistical data, United States Army General Hospital No. 5, Fort Ontario, N. Y., from November, 1917, to September 3, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.				
			By transfer.	Otherwise.										Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
November	170	67	89	1	327	156	.....	60	1	.....	1	5	1	101	2	3,728	144
December	103	46	26	6	181	92	.....	22	.....	.....	.....	.....	.....	67	......	2,617	48
1918.																	
January	67	54	172	......	293	69	2	11	.....	.....	.....	1	.....	210	......	210	......
February	210	67	5	......	282	99	1	21	.....	.....	.....	1	.....	158	2	5,118	8
March	160	38	9	4	211	59	1	61	.....	.....	.....	.....	.....	90	......	3,567	......
April	90	33	10	......	133	53	.....	37	.....	.....	.....	2	.....	41	......	1,783	......
May	41	35	11	......	87	45	.....	3	.....	.....	.....	.....	.....	37	2	1,105	8
June	39	49	56	......	144	43	.....	2	1	.....	.....	.....	.....	98	......	2,293	1
July	98	49	86	......	233	70	.....	.....	.....	.....	.....	1	.....	162	......	3,801	......
August	162	43	798	......	1,003	129	2	2	.....	.....	.....	.....	.....	870	......	13,761	......
September	870	158	636	......	1,664	468	23	3	.....	.....	.....	1	.....	1,169	......	28,270	......
October	1,169	115	38	......	1,322	656	61	4	.....	.....	.....	3	5	593	......	30,376	......
November	593	43	253	......	889	195	.....	11	.....	.....	.....	2	10	671	......	19,695	8
December	671	48	194	1	914	545	2	.....	2	1	.....	35	2	327	......	16,957	......
1919.																	
January	327	69	179	1	576	134	1	18	1	1	1	105	16	299	......	6,019	......
February	299	75	186	1	561	84	1	3	1	.....	1	53	11	407	......	3,864	......
March	407	111	566	61	1,145	169	4	4	.....	.....	.....	6	360	602	......	18,501	......
April	602	99	165	316	1,182	149	1	23	.....	.....	.....	111	363	535	......	21,994	......
May	535	66	571	190	1,362	113	2	16	.....	.....	.....	10	402	819	......	18,264	......
June	819	60	688	255	1,822	297	7	2	.....	.....	.....	15	616	885	......	25,242	......
July	885	39	270	465	1,659	289	3	3	.....	.....	.....	19	719	626	......	27,487	......
August	626	28	2	123	779	149	16	.....	.....	.....	.....	270	315	28	1	14,582	......
September	28	1	......	2	31	8	.....	.....	.....	.....	.....	7	16	......	......	13	16

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 5, Fort Ontario, N. Y., from November, 1917, to September 3, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
November	2	45	17	64	November	2	9	12	23
December	2	43	17	62	December	2	11	11	24
1918.					1919.				
January	1	37	14	52	January	2	14	8	24
February	1	36	14	51	February	2	14	8	24
March	1	39	15	55	March	3	35	12	50
April	1	11	12	24	April	2	22	10	34
May	1	11	12	24	May	2	32	10	44
June	1	11	12	24	June	35	36	10	81
July	1	11	12	24	July	73	34	10	117
August	1	11	12	24	August	66	16	10	92
September	1	11	12	24	September	66	4	10	80
October	2	11	12	25					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
November	19	....	1	20	155	24	179	24
December	20	....	1	21	172	21	193	12
1918.								
January	19	....	1	20	185	21	206	17
February	20	....	1	21	191	22	213	25
March	21	....	1	22	195	24	219	25
April	21	....	1	22	196	26	222	27
May	21	....	1	22	201	27	228	22
June	20	....	1	21	208	25	233	18
July	19	....	1	20	228	25	253	16
August	20	4	1	25	214	27	241	33
September	26	4	1	31	307	35	342	56
October	25	5	1	31	534	53	587	105
November	27	4	3	34	433	53	486	96
December	28	4	1	33	568	53	621	91
1919.								
January	23	7	1	31	581	54	635	75
February	25	7	2	34	596	54	650	71
March	34	6	2	42	798	32	830	71
April	30	6	2	38	761	31	792	60
May	31	6	2	39	731	19	750	63
June	38	5	2	45	715	16	731	61
July	30	5	3	38	516	17	533	71
August	26	2	4	32	345	15	360	50
September	2	....	....	2	12	....	12	....

GENERAL HOSPITAL NO. 6, FORT McPHERSON, GA.

Fort McPherson, 4 miles to the southeast of Atlanta, was named in honor of Gen. J. B. McPherson, commander of a corps of Sherman's army.

The terrain is hilly and heavily wooded with red oak and pine. The soil is a sandy red clay, sticky when wet and easily carried, but the excellent condition of the grounds obviated this. The roads of the post were well watered and oiled, which prevented dust from scattering in dry weather.

The climate, during the period covered by the history of the hospital, offered no extremes in seasons, the summers being warm but not oppressively so. During summer the days were hot, but the nights were cool, and the

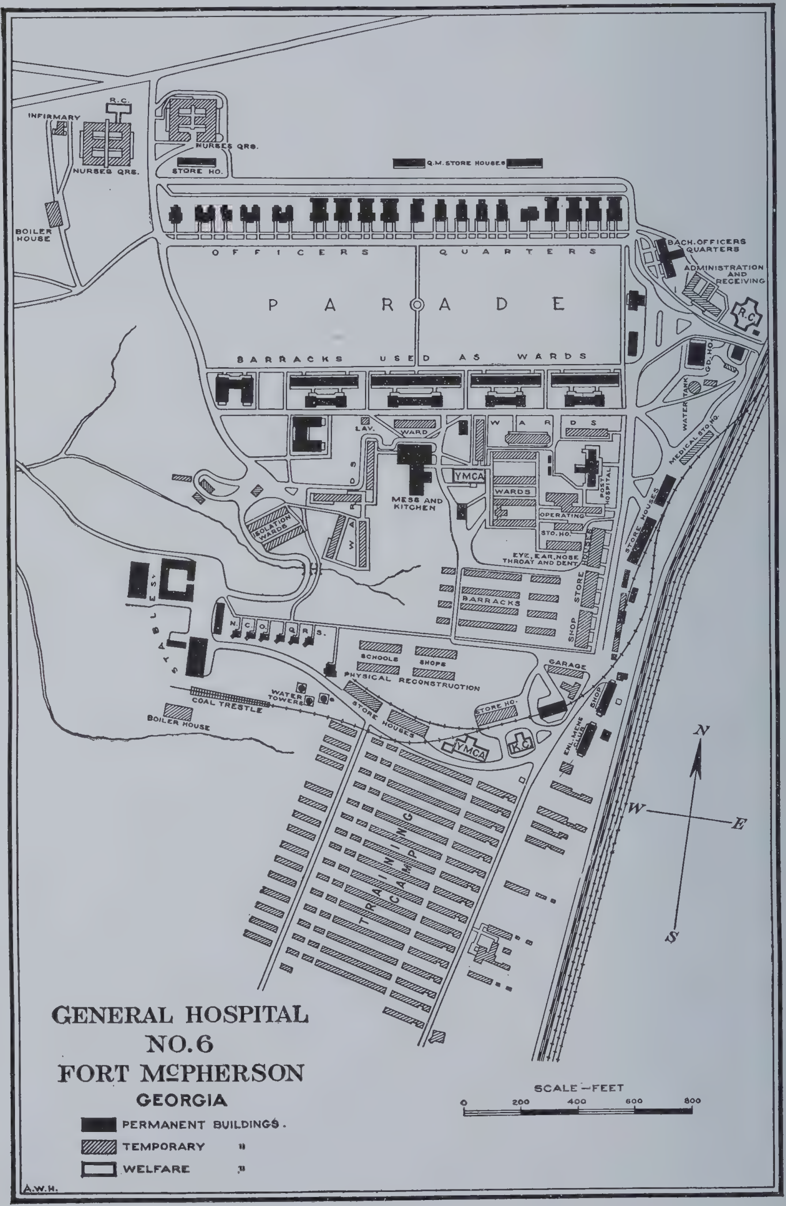
INFIRMARY
R.C.
NURSES QRS.
NURSES QRS.
STORE HO.
Q.M. STORE HOUSES
BOILER HOUSE
OFFICERS QUARTERS
PARADE
BARRACKS USED AS WARDS
BACH. OFFICERS QUARTERS
ADMINISTRATION AND RECEIVING
R.C.
GD. HO.
WATER TANK
MEDICAL STO. HQ.
LAV.
WARD
WARDS
WARDS
YMCA
WARDS
MESS AND KITCHEN
POST HOSPITAL
OPERATING
STO. HO.
ISOLATION WARDS
EYE, EAR, NOSE THROAT AND DENT.
STORE HOUSES
BARRACKS
STORE
SHOP
STABLES
N.C.O. QRS.
SCHOOLS
SHOPS
PHYSICAL RECONSTRUCTION
GARAGE
WATER TOWERS
COAL TRESTLE
BOILER HOUSE
STORE HOUSES
STORE HO.
YMCA
K.C.
SHOP
ENL. MENS CLUB
TRAINING CAMP
N
W
E
S
GENERAL HOSPITAL
NO. 6
FORT McPHERSON
GEORGIA
PERMANENT BUILDINGS.
TEMPORARY "
WELFARE "
SCALE—FEET
0
200
400
600
800
A.W.H.

FIG. 170.

humidity was seldom high. The winter cold rarely started before January. There was little snow, but considerable sleet and ice, which was more in the nature of frozen mist. The winds were frequently high in wintry weather, sometimes extending into early spring.

The roads consisted of macadam, asphalt, and tarvia. The Dixie Highway passed the eastern side of the post. While the road construction was good, the maintenance was very poor, the condition of the main highway leading to the hospital being at times dangerous to traffic.

The first important step in the establishment of the hospital was taken on June 23, 1917,[36] when the Secretary of War, through The Adjutant General of the Army, directed "that the permanent barracks of Fort McPherson * * * be made available for general or base hospital use." A little over a month later, on July 31, the commanding officer of Fort McPherson was directed to "get in touch with the commanding officer of the hospital to be established at Fort McPherson, and endeavor to arrange a complete transfer of administration to the hospital authorities" simultaneously with the withdrawal of his troops.[36] Within a few weeks—on August 20—the transfer was effected,[36] the post being turned over to the senior medical officer, by the commanding officer of the Seventeenth Infantry, on the departure of that regiment—and thus began the base hospital at Fort McPherson.

On December 2, 1917, it was directed by telegraphic information that the base hospital at Fort McPherson be designated General Hospital No. 6, this being confirmed a few days later by receipt of General Orders, No. 150, War Department, November 29, 1917.

The permanent buildings consisted of a guardhouse, a two-story headquarters building, a two-story officers' clubhouse, and 18 two-story houses (for officers) extending along the northern side of the parade ground. Fourteen of these houses were double, being designated east and west. There was also a row of two-story brick barracks extending along the southern side of the parade ground, which had verandas on both floors and a northern and southern exposure, and 2 two-story double machine-gun barracks, one facing north and the other facing west. Along the southeastern margin of the post, skirting the Dixie Highway, were the various quartermaster buildings.[37] In addition to these brick buildings, there was a number of frame buildings located in different portions of the post and used for storehouses by the Quartermaster Department, which were frame buildings originally erected on the parade ground for the reception of patients during the Spanish American War.

General Hospital No. 6 had its beginning in the post hospital, a two-story brick building, with 2 one-story wings, one running south and the other running north. This was the original post hospital, the central two-story portion serving as the administrative offices of the hospital, and the wings as medical and surgical wards, each accommodating about 20 patients.

Early in the summer of 1917 the Surgeon General sent plans for the building of certain wards and storehouses to be used as a base hospital, and it was directed by The Adjutant General of the Army that the commanding officer, the surgeon, and the quartermaster should constitute a board of officers to locate these buildings. They were a receiving ward, female nurses' home, enlisted men's barracks, two isolation wards, two single sets of wards, two double sets of wards, operating pavilion, two psychiatric wards, a medical storehouse, and a morgue.

On August 20, 1917, on the departure of headquarters and the six companies of the Seventeenth Infantry, the post was turned over to the ranking medical officer, in accordance with instructions of The Adjutant General referred to above. Later in the fall of 1917 a battalion of the Seventeenth Infantry returned to Fort McPherson for guard duty in the city of Atlanta and occupied barracks in the training camp buildings. After the officer who commanded this battalion left, a junior officer of Infantry was left in command, and, with the approval of the department commander, assumed command of the whole post,[36] under the provisions of the One hundred and twentieth Article of War, notwithstanding the fact that the last clause of the One hundred and twentieth Article of War clearly states that "unless otherwise directed by the President". After considerable correspondence with The Adjutant General through the Surgeon General's Office, this situation was rectified and about December 2, 1917, the hospital became a general hospital, and about March 5, 1918, the Medical Department's jurisdiction was clearly defined.

The water supply of the hospital was obtained from deep wells, supplemented by Atlanta water, piped from the Chattahoochee River.[38] The independent water supply was of great service in 1918, when the Atlanta water supply was found to be contaminated, causing a small epidemic of typhoid and paratyphoid fever in the city of Atlanta and in neighboring commands. Only temporary gastrointestinal disturbance was experienced among the inhabitants of the post and this was carefully investigated by a special detail of officers. Until the condition of the Atlanta water supply was pronounced good by the hospital laboratory, water wagons delivered water, drawn from the wells, to the wards and mess hall.[38] It is believed that more serious illness was averted by this precaution.

Incineration of the sewage was practiced until recent years. To meet the demands of the increased population, a large modern sewage-disposal plant was built on the northwestern corner of the post,[39] part of the land lying outside the post boundary. Two large stone filtration beds received the effluent in alternating automatic sprays through which it filtered into a small streamlet, the spring of the recipient water shed having been filled in to prevent drinking.

There were no latrines in use at the hospital, flush closets and urinals, with modern plumbing, being used throughout.

Connected with the permanent barracks were toilets, tubs, and shower baths, either in the basement of the main building or in the basement of adjoining buildings. In order to make these barracks available for wards for the care of bed patients, it was necessary to introduce in or near the ward running water with wash basins and slop sinks. This was accomplished by screening off a portion of each ward. There was erected a small frame building with toilets, basins, and shower baths, originally designed for the use of the Medical Corps, who were to have been housed in a building immediately adjoining this. Owing to the growth of the hospital, it was found more practical to assign these buildings for the use of colored patients.

The heating of the hospital buildings was accomplished by two heating plants (steam). The first of these was authorized October 12, 1917,[40] and completed

December 9, 1917. This plant heated some of the permanent hospital buildings and the newly constructed frame wards. The nurses' and officers' quarters, consisting of a clubhouse, and 20 separate buildings (houses) as well as some permanent barrack buildings, were heated by individual furnaces and open fireplaces. To heat these buildings and the nurses' Red Cross Building, and additional living quarters, mess hall and kitchen, and infirmary for nurses, a second steam heating plant was authorized September 19, 1918.[41]

In this connection it is of interest to mention that the authorization for the first heating plant came so late (Oct. 12, 1917) that completion in time to meet the winter cold would have been impossible. The commanding officer, foreseeing this, ordered the construction of the heating plant without authorization and later was commended by The Adjutant General for his action.

The hospital was lighted by electricity, the power being supplied by the Georgia Railway & Power Co., Atlanta.

In August, 1917, the mess of the hospital at Fort McPherson comprised three kitchens, two of which were for patients and the other for the enlisted personnel of the hospital. At that time about 400 patients and Medical Department enlisted men were being cared for in these three kitchens, the equipment of which consisted of regular garrison equipment but no modern labor-saving devices. When the barrack buildings, vacated by the Seventeenth Infantry, were remodeled and made into wards, a kitchen was opened for each building in which there were two wards. When the new buildings to be used as surgical wards were completed, they were connected with the large gynasium and post exchange building by a runway. The stage of the gymnasium was remodeled and made into a large kitchen for these surgical wards; and the gymnasium proper was converted into a large mess hall for the convalescent patients from the adjoining wards and for the men of the detachment, Medical Department. The equipment was meager at first, but was soon replaced by up-to-date appliances.

This large institution, in addition to being a hospital, soon assumed the nature of an Army medical school, for both scientific and military training. The officer personnel was divided into a permanent staff of headquarters, medical, sanitary, and quartermaster officers, and comprised the commanding officer, the chief of the surgical service and 40 ward surgeons, the chief of the medical service and 25 assistants, the chief of the laboratory service with laboratory technicians, and the quartermaster with nine assistants. It continued in existence as a general hospital until December, 1919, when it reverted to the status of a post hospital.

Statistical data, United States Army General Hospital No. 6, Fort McPherson, Ga., from December, 1917, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
December	460	118	831	15	1,424	663	14	11	1	.....	.....	.....	11	724	5	19,968	24
1918.																	
January	724	142	744	11	1,621	617	13	42	.....	.....	.....	.....	8	941	......	25,999	......
February	941	106	578	16	1,641	734	4	39	3	2	1	2	12	844	......	12,986	195
March	844	177	385	16	1,422	668	2	79	6	.....	2	3	36	626	......	22,020	27
April	626	195	828	16	1,665	869	17	21	4	.....	.....	.....	48	706	......	24,425	......
May	706	175	822	15	1,718	731	5	34	2	.....	1	.....	72	873	......	26,872	......
June	873	115	561	28	1,577	556	3	46	.....	.....	33	1	71	867	......	23,328	......
July	867	74	725	107	1,773	450	2	97	.....	.....	21	1	140	1,062	......	31,191	......
August	1,062	45	367	129	1,603	366	4	140	.....	.....	.....	3	135	955	......	31,448	......
September	955	72	352	133	1,512	239	2	173	.....	.....	1	3	171	923	......	27,551	......
October	923	238	625	244	2,030	388	20	124	.....	.....	31	8	124	1,335	......	47,733	......
November	1,335	101	629	157	2,222	452	5	211	.....	.....	.....	3	126	1,425	......	42,465	......
December	1,425	126	843	331	2,725	389	10	276	.....	8	39	457	341	1,205	......	43,262	......
1919.																	
January	1,205	168	1,158	376	2,907	251	2	202	.....	20	48	539	291	1,554	......	52,125	......
February	1,554	100	797	268	2,719	666	3	150	.....	.....	23	15	257	1,605	......	39,972	......
March	1,605	92	990	292	2,979	723	10	196	.....	9	1	10	292	1,738	......	52,692	5
April	1,738	70	531	311	2,650	514	3	219	.....	6	.....	18	357	1,533	......	47,253	......
May	1,533	64	887	304	2,788	526	6	226	.....	.....	.....	16	320	1,694	......	50,544	......
June	1,694	52	1,976	248	3,970	1,127	7	243	.....	18	.....	17	280	2,278	......	64,038	10
July	2,278	75	835	333	3,521	914	20	87	.....	39	1	22	240	2,198	......	74,604	......
August	2,198	89	567	312	3,166	465	9	354	.....	29	.....	11	330	1,968	......	62,248	......
September	1,968	60	228	331	2,587	552	10	270	.....	25	.....	48	376	1,306	......	26,775	......
October	1,306	92	588	333	2,319	237	8	228	.....	20	1	.....	203	1,622	......	42,619	......
November	1,622	82	388	203	2,295	601	5	212	.....	15	.....	4	202	1,256	......	43,565	......
December	1,256	84	68	190	1,598	301	7	195	.....	18	.....	15	407	655	......	27,339	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1917.				
December	23	20	24	67
1918.				
January	23	20	24	67
February	60	40	14	114
March	43	39	14	96
April	57	39	14	110
May	57	39	14	110
June	105	69	53	227
July	6	73	61	140
August	5	69	54	128
September	5	66	55	126
October	5	66	55	126
November	8	71	55	134
December	6	66	55	127
1919.				
January	11	66	55	132
February	17	73	53	143
March	17	77	54	148
April	17	77	54	148
May	18	77	54	149
June	18	77	54	149
July	18	77	54	149
August	18	77	54	149
September	18	77	54	149
October	18	77	54	149
November	18	76	54	148
December	18	76	54	148

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 6, Fort McPherson, Ga., from December, 1917, to December, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Aides and workers.	Other civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous. (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous. (Q. M. C., etc.).	Total.			
1917.										
December	29	....	1	30	307	....	307	55	....	....
1918.										
January	33	1	1	35	344	....	344	59	....	....
February	36	1	1	38	394	....	394	59	....	....
March	45	1	6	52	401	179	580	77	....	....
April	56	1	7	64	516	193	709	88	....	....
May	48	2	7	57	506	198	704	83	....	....
June	64	3	6	73	521	205	726	90	....	....
July	75	5	9	89	459	244	703	98	....	....
August	66	7	9	82	444	240	684	98	....	....
September	51	8	6	65	755	231	986	105	....	....
October	56	9	8	73	737	222	959	129	....	....
November	62	8	8	78	742	244	986	112	66	14
December	88	8	8	104	728	336	1,064	136	87	15
1919.										
January	76	9	10	95	842	329	1,171	129	111	15
February	79	8	10	97	886	345	1,231	184	80	14
March	85	8	8	101	983	434	1,417	178	86	14
April	85	8	8	101	902	300	1,202	177	85	15
May	60	8	9	77	881	262	1,143	164	91	17
June	62	7	3	72	894	200	1,094	170	119	19
July	63	6	10	79	866	163	1,029	190	127	17
August	60	6	10	76	806	173	979	179	137	16
September	50	6	21	77	743	191	934	176	135	15
October	34	6	15	55	646	199	845	193	130	12
November	38	6	15	59	603	226	829	161	....	....
December	40	8	14	62	539	225	764	147	....	....

GENERAL HOSPITAL NO. 7, BALTIMORE, MD.

The Garrett Estate, located in the northern suburban portion of Baltimore, was in the early fall of 1917 generously tendered the Government by its owner for use as a hospital for the blind.[42] The estate comprised 50 acres of land, beautifully landscaped and wooded, on which were located several sumptuous dwellings, separately known as Evergreen, Evergreen, Junior, and The Wilson Home. These structures were adequate to house 50 patients and the necessary personnel and supplies.

Adjacent to the Garrett Estate was a tract of land, consisting of 2 acres, which was also offered the Government, and this and the offer of the Garrett Estate were accepted by the War Department at the nominal rental of $1 per year.[43]

Much study was devoted to the incidence of blindness, both total and partial, in the armies of the allies. Varying reports were received in the Surgeon General's Office; conflicting statistics were analyzed, and direct personal reports were secured. The application of this experience to our own forces was a difficult matter and required considerable care, lest wrong conclusions be reached. Even with the care exercised, the estimated number of the blinded, to be expected in our forces, varied widely, dependent on the point of view of the one making the estimate, as well as upon the grounds used for his calculations. In consequence, many studies were made, and data from all quarters were considered in evolving plans for the necessary additional buildings at this hospital. It was desired to provide facilities to teach advanced vocational subjects to the blind; but there were no known institutions in the

United States giving instruction of this sort; and considerable difficulty and delay were encountered while sufficiently definite building plans were being prepared. Some of these plans were developed at the hospital and some were prepared in the Office of the Surgeon General. Three main construction items, initiated in the Office of the Surgeon General, were consolidated into two, and their execution was begun in April, 1918, and January, 1919, respectively, and completed in November, 1918, and March, 1919.

The hospital, however, was organized as General Hospital No. 7 on November 27, 1917, with the primary purpose of physical, mental, and vocational reconstruction of economically blinded soldiers, sailors, marines, and civilians in the Government service.[44]

When completed, this institution, which was virtually a school, consisted of two school buildings, two manual training buildings, one recreation building, one physical recreation building, five barracks, and the necessary utility structures in addition to the buildings originally on the estate. The ultimate capacity of the hospital was 300, and the cost of its construction was $300,000.

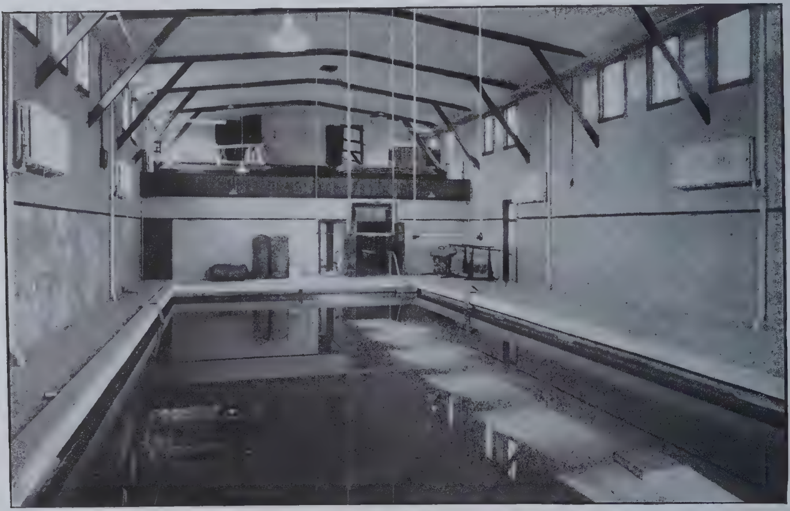

FIG. 171.—Swimming pool in gymnasium, General Hospital No. 7, Baltimore.

In addition to teaching Braille, various trades suitable for the blind were taught. Certain of the men were also given intensive training in vocations with which they had become identified prior to their entrance into the service.

The physical recreation building at the hospital was found to be of a decided advantage; its swimming pool, especially, engendered self-reliance and lent poise to the patients. It was learned that after a blind man became able to calmly dive from an elevated spring board into the pool he had gone a long way in overcoming that physical timidity which is so common. Strangely enough, the bowling alleys were put to good use, and the benefit in developing a sense of direction was often remarked.

Soldiers who had received injury to the eyes were cared for in General Hospital No. 2, Baltimore, so long as medical or surgical attention was required, after which they were sent to General Hospital No. 7. While these soldiers were in General Hospital No. 2, however, it was the practice to begin reeducation of them so that no time would be lost.

In April, 1919, following a visit of Sir Arthur Pearson, who told of the methods and success of St. Dustan's in England, which he, a blinded man, had founded and was operating, it was decided to demilitarize General Hospital No. 7. All the blind soldier inmates were discharged from the service; and as a result of their civilian status, with total disability, they were drawing a compensation greater in amount than their active pay had been. This increased their morale markedly. Such was not the case with the officer patients, however; but they were few in number. In order to continue the work at this institution the Medical Department entered into an agreement with the American National Red Cross whereby the Medical Department held the property on lease, but turned over the buildings to the Red Cross on a revocable license so that that organization, in cooperation with the Federal Board for Vocational Training, could carry on the instruction of the blind.

Statistical data, United States Army General Hospital No. 7, Baltimore, Md., from December, 1917, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
December		1			1							1				1	
1918.																	
January		18			18	15						3				28	
February		8			8	6									2		30
March	2	5			7	6									1		38
April	1	5	3		9	5								4		36	1
May	4	5	1	1	11	4						1		6		115	
June	6	1	5		12	2						3		7		185	
July	7	2	2		11	1		1				1		8		269	
August	8	3	1	1	13	2						1		10		269	
September	10	8	11	1	30	7								23		544	
October	23	14	3	1	41	12						3		25	1	796	
November	26	8	7	1	42	8						2		31	1	892	7
December	32	13	45	3	93	13	1					16		63		1,636	14
1919.																	
January	63	21	28	73	185	18		7				69		89	2	3,765	7
February	91	28	3	36	158	23		8	1			44		82		2,752	30
March	82	11	3	131	227	5		4				77		141		996	7
April	141	11	6	33	191	13		8				66	1	103		615	3
May	103	4		7	114	2		73				25	9	5		2,020	
June	5	3		6	14	2		7				2	1	2		34	5
July	2			5	7			5						2		66	
August	2		1		3							1		2		45	
September	2	2			4							2		2		60	
October	2	1			3							1		2		62	
November	2				2									2		60	
December	2				2							2			2	2	

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 7, Baltimore, Md., from December, 1917, to December, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1919.					1919.				
January	2	12	....	14	July	1	1	....	2
February	2	14	....	16	August	1	1	....	2
March	2	10	....	12	September	....	1	....	1
April	2	10	....	12	October	....	1	....	1
May	2	10	....	12	November	....	1	....	1
June	1	1	....	2	December	....	....	....	....

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
December	1	1	1	3	11	3	14	....
1918.								
January	1	2	1	4	49	8	57	....
February	1	2	1	4	50	8	58	....
March	2	2	1	5	52	10	62	....
April	2	2	1	5	52	12	64	....
May	2	2	1	5	75	17	92	....
June	2	2	1	5	74	16	90	....
July	1	2	1	4	65	16	81	3
August	1	2	1	4	61	15	76	3
September	2	1	1	4	62	16	78	3
October	3	2	1	6	62	16	78	3
November	7	2	2	11	62	18	80	3
December	7	2	2	11	70	32	102	6
1919.								
January	6	2	2	10	95	33	128	6
February	8	2	3	13	89	45	134	10
March	9	2	3	14	91	43	134	10
April	6	2	3	11	90	37	127	5
May	5	2	2	9	59	5	64	5
June	3	2	1	6	49	5	54	....
July	2	2	1	5	35	5	40	....
August	1	1	1	3	27	3	30	....
September	1	1	1	3	21	3	24	....
October	1	1	1	3	17	3	20	....
November	1	....	1	2	11	3	14	....

GENERAL HOSPITAL NO. 8, OTISVILLE, N. Y.

This hospital had its inception in a conference at Otisville, in the fall of 1917, between representatives of the Surgeon General's Office, the New York City Sanatorium for Tuberculosis, and the office of the commissioner of health, New York City. As a result of this conference, the city of New York, on December 10, 1917, granted to the War Department the exclusive temporary occupancy of about 40 acres of unimproved land adjoining the New York City Sanatorium for Tuberculosis in the outskirts of Otisville, N. Y. The property acquired was on the rather steep southern slope of Shawangunk Mountain, overlooking the town on the north. Three additional small tracts of land were obtained in order to secure an avenue of entrance, a heating plant, and reservoirs for the water supply. Later, and after the hospital was in operation, it was necessary to lease three additional properties: for farming purposes, recreational and occupational features, and quarters for officers and reconstruction aides.

On September 9, 1917, in a letter to The Adjutant General's Office the Surgeon General requested authority to have constructed a 500-bed hospital for the treatment of tuberculosis.[45] This authority being received, the Surgeon General on October 24 sent plans to the Construction Division and requested the erection of a 300-bed hospital.[46] This was to be the first hospital for the treatment of the tuberculous. Much time was now given to the study of the wards to be used. Although preliminary plans for the hospital had been transmitted to the Construction Division, study was continued on the design of various types of wards to be adopted and upon the various classes of wards for the varying clinical conditions of the sick. This premature request for construction served its purpose, as the Construction Division utilized the time in estimating materials and starting them to the site, in securing authority for the expenditure of the necessary funds, in surveying, and in organizing for the project. Meanwhile, opinions from the best authorities available were considered and decisions made from time to time, as a result of which substitutions in the original request were made. Negotiations, for the lease of the land, which as yet had not been secured, were going forward. During this period, however, there was evidence of much misunderstanding of the purpose of the Surgeon General, as his office received letters charging that he was providing accommodations for the tuberculous identical with those in the large military camps then being completed. Before construction was begun, the erection of six more special wards was added to the request. Construction began on this (now a 500-bed hospital) early in February, 1918, and by July, 1918, it was finished.[48]

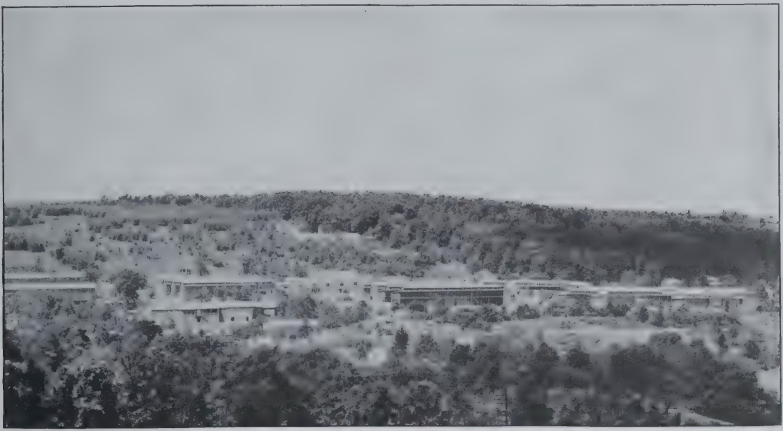

FIG. 172.—General Hospital No. 8, Otisville, N. Y.

In the summer of 1918, the necessity for more space for the tuberculous was evident, and eight open-air wards, four infirmary wards, one barracks, additions to the laboratory, nurses' quarters, and head surgery building and other miscellaneous construction items, were called for.[49] The water being unsatisfactory, an ultraviolet ray sterilizer was installed and some months later filtration and sewage disposal plants were installed.[50] Great difficulties in construction were experienced, especially in the winter and spring, but the work was prosecuted with energy and dispatch.

The land was situated near the tracks of the Erie Railroad. It was not possible to run a spur up the mountain into the hospital; so to save hauling coal the heating plant was built down by the tracks; and the sick, arriving as they did by train, were carried the short distance from the station to the hospital by ambulance.

Construction work ceased early in 1919 with a total normal capacity of 1,000 beds. In the main, the wards were built for three clinical classes: Bed cases, ambulatory cases, and a class midway between these two. For the first class, infirmary wards were built, for the second class, ambulatory wards, and for the middle group, semi-infirmary wards.[51] The cost was approximately one and one-half million dollars, or $1,500 a bed.

The hospital was opened in June, 1918, and within a month over 500 sick were constantly under treatment.[52] The number remained at about 600 until March, 1919, when it began to increase, and by April it had reached 800, where it remained until September, when a rapid decline began.[52] This decline was furthered by the decision to close the hospital on November 15.[53] This decision was approved and carried out; and the remaining patients requiring further treatment were transferred to other tuberculosis hospitals, namely, General Hospitals, Nos. 19, 20, and 21.[54]

Statistical data, United States Army General Hospital No. 8, Otisville, N. Y., from May, 1918, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
May	......	2	......	......	2	2	.....	.....	.....	.....	.....	.....	.....	......	......	5	15
June	......	7	153	......	160	2	.....	.....	.....	.....	.....	.....	.....	158	......	922	3
July	158	12	502	......	672	11	3	2	1	.....	.....	.....	.....	655	......	12,000	......
August	655	24	96	1	776	18	9	11	.....	.....	.....	.....	.....	737	1	21,812	4
September	738	15	41	......	794	42	3	6	.....	.....	.....	2	.....	741	......	22,099	8
October	741	51	20	......	812	32	15	33	.....	.....	.....	.....	.....	732	......	23,076	14
November	732	26	72	......	830	56	15	38	.....	.....	.....	156	.....	564	1	17,851	8
December	565	16	57	......	638	36	5	51	5	.....	.....	3	.....	538	......	16,679	6
1919.																	
January	538	92	91	5	726	135	13	17	.....	.....	.....	4	5	551	1	17,558	35
February	552	28	133	1	714	57	7	89	.....	.....	.....	11	4	546	......	14,521	8
March	546	53	246	......	845	102	7	41	.....	.....	.....	7	3	685	......	17,622	......
April	685	29	251	1	966	64	11	70	1	.....	.....	15	.....	805	......	20,687	......
May	805	38	130	......	973	63	14	67	2	1	.....	36	2	788	......	22,316	20
June	788	33	281	......	1,102	59	15	161	.....	.....	.....	9	3	855	......	24,394	10
July	855	9	144	2	1,010	58	14	139	1	.....	.....	12	2	784	......	25,799	......
August	784	10	189	3	986	17	14	91	3	.....	.....	16	.....	845	......	25,083	......
September	845	22	36	1	904	19	7	168	.....	.....	.....	251	1	458	......	19,961	......
October	458	16	18	2	494	11	4	135	1	.....	.....	19	3	319	2	11,559	68
November	321	12	1	1	335	9	2	35	.....	.....	.....	279	9	1	......	1,400	77
December	1	......	......	......	1	.....	1	.....	.....	.....	.....	.....	.....	......	......	......	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 8, Otisville, N. Y., from May, 1918, to December, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
September	5	7	....	12
October	5	7	....	12
November	5	7	....	12
December	5	7	....	12
1919.				
January	5	7	....	12
February	5	7	....	12
March	5	7	....	12
April	5	7	....	12
May	5	7	....	12
June	5	7	....	12
July	5	7	....	12
August	5	7	....	12
September	20	19	....	39
October	20	19	....	39
November	45	12	....	57
December	46	....	....	46

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
May	14	3	1	18	71	12	83	....
June	16	4	1	21	225	23	248	7
July	23	5	2	30	237	23	260	34
August	27	7	2	36	314	27	341	44
September	28	7	2	37	316	35	351	43
October	29	7	4	40	314	52	366	64
November	31	7	5	43	306	52	358	61
December	32	10	4	46	415	68	483	55
1919.								
January	29	10	3	42	371	67	438	50
February	37	11	3	51	399	94	493	75
March	46	12	5	63	376	81	457	64
April	39	12	5	56	379	57	436	61
May	37	12	6	55	352	35	387	62
June	37	12	5	54	387	11	398	60
July	33	13	6	52	257	5	262	79
August	25	9	7	41	227	34	261	81
September	27	8	6	41	226	34	260	64
October	14	4	3	21	203	33	236	50
November	2	2	1	5	48	32	80	....

REFERENCES.

(1) Report of Sanitary Inspection of Army and Navy General Hospital, Hot Springs, Ark., on December 23, 1918, by Lieut. Col. H. B. McIntyre, M. C. On file, Record Room, S. G. O., 721 (Army and Navy Gen. Hosp.) K.

(2) Correspondence relative to land and buildings at Hot Springs, Ark., for hospital sites. On file, Record Room, S. G. O., 601 (Hot Springs, Ark.) S.

(3) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(4) Outline Description of Military Posts and Reservations in the United States and Alaska and of National Cemeteries. Washington, Government Printing Office, 1904, 53.

(5) Letter from Surg. Gen. George M. Sternberg, to the Secretary of War, July 7, 1899. Subject: Sanitarium for Soldiers Suffering from Tuberculosis. On file, Record Room, S. G. O., 60225 (Old Files).

(6) Shown on weekly bed report. On file, Record Room, S. G. O., 632 U.

(7) Letter from Lieut. Col. Edward P. Rockhill, M. C., commanding officer, General Hospital, Fort Bayard, to Maj. E. H. Bruns, M. C., S. G. O., February 2, 1918. Subject: Opening of wards. On file, Record Room, S. G. O., 632 (Gen. Hosp. Ft. Bayard) (K).

(8) Letter from Lieut. Col. Edward P. Rockhill, M. C., to Lieut. Col. E. H. Bruns, M. C., S. G. O., August 4, 1918. Subject: Occupation of wards. On file, Record Room, S. G. O., 632 (Gen. Hosp. Ft. Bayard) K.

(9) Annual Report of the Surgeon General U. S. Army, 1919, Vol. II, 50.

(10) Annual Report of the Surgeon General U. S. Army, 1900, 29.

(11) Shown on weekly bed reports. On file, Record Room, S. G. O., 632.

(12) Shown on "block plan," Letterman General Hospital. On file, Hospital Division, S. G. O.

(13) Sixth indorsement from the Surgeon General to The Adjutant General, November 19, 1917. Subject: Request construction of permanent building for psychiatric wards. Also: Eighth indorsement from The Adjutant General to the commanding general, Western Department. Subject: Authorizing construction of permanent building for psychiatric wards. On file, Record Room, S. G. O., 632.11 (Letterman General Hospital) K.

(14) Tentative plan for Columbia University to aid the medical and surgical defense of New York, suggested by J. Bentley Squier. Published in the *New York Times*, April 3, 1917.

(15) Report from Lieut. Col. P. W. Gibson, M. C., commanding officer, General Hospital No. 1, Williamsbridge, N. Y., to the Surgeon General, October 18, 1919. Subject: Report of activities of General Hospital No. 1. On file, Historical Division, S. G. O. (General Hospitals).

(16) Letter from F. A. Goetze, treasurer, Columbia University, to the Secretary of War, June 15, 1917. Subject: Offer of use of war hospital for military purposes. On file, Record Room, S. G. O., 187538 (Old Files).

(17) Letter from the Surgeon General to the Secretary of War, June 25, 1917. Subject: Offer of war hospital by Columbia University, N. Y. Approval of Secretary of War indorsed thereon. On file, Record Room, S. G. O., 187538 (Old Files).

(18) G. O. No. 103, W. D., Washington, August 6, 1917. Par. I.

(19) Report of Sanitary Inspection of General Hospital No. 4, at Fort Porter, N. Y., on April 25, 1919, by Col. E. R. Schreiner, M. C. On file, Division of Sanitation, S. G. O.

(20) Letter from the Surgeon General to the Chief of Staff, October 16, 1917. Subject: Use of Fort Porter, N. Y., for general hospital purposes. On file, Record Room, A. G. O., 323.7 (Gen. Hosp. No. 4) K.

(21) Letter from commanding office, General Hospital No. 4, Fort Porter, N. Y., to the Surgeon General, November 11, 1917. Subject: Duties. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 4) K.

(22) Letter from the Surgeon General to The Adjutant General, February 8, 1918. Subject: Accommodations for troops returning from Europe. On file, Record Room, S. G. O., 680.1 (General Hospitals) K.

(23) First indorsement from United States Army General Hospital No. 4, Fort Porter, N. Y., to the Surgeon General, April 8, 1918. Report on psychiatric service at this hospital. On file, Record Room, S. G. O., 702 (Gen. Hosp. No. 4) K.

(24) Memorandum from Lieut. Col. T. D. Woodson, M. C., for the Chief, Morale Branch, General Staff, July 7, 1919. Subject: General Hospital No. 4, Fort Porter, N. Y. On file, Record Room, S. G. O., 652 (Gen. Hosp. No. 4) K.

(25) Outline Description of Military Posts and Reservations in the United States and Alaska and of National Cemeteries. Washington, Government Printing Office, 1904, 356.

(26) Telegram from The Adjutant General to the commanding general, Eastern Department, July 3, 1917. Subject: Use of barracks at Fort Ontario. On file, Record Room, S. G. O., 176795–2 (Old Files).

(27) Letter from the Surgeon General to the commanding officer, Base Hospital, Fort Ontario, N. Y., October 17, 1917. Subject: Hospital construction. On file, Record Room, S. G. O., 621.–1 (Ft. Ontario) (N).

(28) Letter from the Surgeon General to the commanding officer, General Hospital No. 5, Fort Ontario, N. Y., May 3, 1918. Subject: Additional hospital buildings and improvements. On file, Record Room, S. G. O., 632 (General Hospital No. 5) K.

(29) Letter from the Chief of Construction Division, to the Surgeon General, October 3, 1918. Subject: Construction work, General Hospital No. 5, Fort Ontario, N. Y. On file, Record Room, S. G. O., 652 (Gen. Hosp. No. 5) (K).

(30) Letter from the chief of surgical service, to the commanding officer, General Hospital No. 5, January 20, 1919. Subject: Report of surgical work for year 1918. On file, Record Room, S. G. O., 319.1–2 (Gen. Hosp. No. 5) K.

(31) Report of Sanitary Inspection of United States Army General Hospital No. 5, Fort Ontario, N. Y., made on August 29–30, 1919, by Col. Paul C. Hutton, M. C. On file, Record Room, S. G. O., 721.–1 (Gen. Hosp. No. 5) K.

(32) Report on Sanitary Inspection of General Hospital No. 5, at Fort Ontario, N. Y., April 26, 1919, by Col. E. R. Schreiner, M. C. On file, Record Room, S. G. O., 721 (Gen. Hosp. No. 5) K.

(33) Letter from Lieut. Col. F. W. Weed, M. C., to the Surgeon General, February 7, 1918. Subject: Sanitary inspection General Hospital No. 5, Fort Ontario, N. Y. On file, Record Room, S. G. O., 721 (Gen. Hosp. No. 5) K.

(34) First indorsement from United States Army General Hospital No. 5 to the Surgeon General, June 4, 1919. Subject: Conditions at the hospital. On file, Record Room, S. G. O. 333. (General Hosp. No. 5) K.

(35) Memorandum from Col. Robert E. Noble, M. C., to all officers of the Surgeon General's office, April 29, 1918. Subject: Designation of hospitals as points to which patients will be sent, according to their classification. On file, Record Room, S. G. O., 632 (General).

(36) Letter from commanding officer, General Hospital No. 6, to Surgeon General, December 6, 1917. Subject: Conditions at Fort McPherson, Ga. On file, Record Room, S. G. O., 322.3 (Lawson Gen. Hosp.) K.

(37) Shown on chart of Fort McPherson, Ga. On file, Record Room, S. G. O., 168795–A (Old Files).

(38) Monthly sanitary reports from General Hospital No. 6, for months of June, July, August, and September, 1918. On file, Record Room, S. G. O., 721.5 (Gen. Hosp. No. 6) P.

(39) Letter from the Surgeon General to The Adjutant General, October 16, 1917. Subject: Operation of sewage disposal plant at Fort McPherson, Ga. On file, Record Room, S. G. O., 672 (Ft. McPherson, Ga.) N.

(40) Letter from the commanding officer, General Hospital No. 6, to the Surgeon General, May 27, 1919. Subject: Report of activities. On file, Historical Division, S. G. O. (Gen. Hosp. No. 6).

(41) Letter from the chief of Construction Division, to the Surgeon General, September 27, 1918. Subject: Installation of steam heating plant at General Hospital No. 6, Fort McPherson, Ga. On file, Record Room, S. G. O., 674 (Lawson General Hospital) K.

(42) Letter from Mrs. T. Harrison Garrett to the Surgeon General, April 10, 1917. Subject: Offer of property to Government for use as a hospital. On file, Record Room, S. G. O., 601 (Baltimore, Md.) S.

(43) Letter from the Surgeon General to the Quartermaster General, November 1, 1917. Subject: Lease of Mrs. T. Harrison Garrett's estate. On file, Record Room, S. G. O., 601 (Baltimore, Md.) S.

(44) Memorandum from Maj. H. H. Johnson, M. C., to Personnel Division, November 28, 1917. Subject: Personnel of General Hospital No. 7 now being organized. On file, Record Room, S. G. O., 210.31–1 (General Hospital No. 7) K.

(45) Letter from the Surgeon General to The Adjutant General, September 12, 1917. Subject: Hospital for tuberculosis. On file, Record Room, S. G. O., 204575 (Old Files).

(46) Letter from the Surgeon General to the Quartermaster General, October 24, 1917. Subject: Tuberculosis Hospital, Otisville, N. Y. On file, Record Room, S. G. O., 632–1 (Gen. Hosp. No. 8) K.

(47) Letter from the Surgeon General to the Secretary of War. February 15, 1918. Subject: Tuberculosis Hospital, Otisville, N. Y. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 8) K.

(48) Letter from Maj. W. G. Hammer, M. C., General Hospital No. 8, to Col. George E. Bushnell, M. C., S. G. O., July 11, 1918. Subject: Progress report. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 8) K.

(49) Letter from the Surgeon General to Construction Division, War Department, August 15, 1918. Subject: New construction, General Hospital No. 8, Otisville, N. Y. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 8) K.

(50) Letter from the Surgeon General to the commanding officer, General Hospital No. 8, November 7, 1918. Subject: Water supply. On file, Record Room, S. G. O., 671 (Gen. Hosp. No. 8) K.

(51) Shown on plans of General Hospital No. 8. On file, Hospital Division, S. G. O.

(52) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(53) Letter from the Surgeon General to The Adjutant General, October 9, 1919. Subject: Discontinuance of Gen. Hosp. No. 8, Otisville, N. Y. On file, Record Room, S. G. O., 323.72–3 (Gen. Hosp. No. 8) K.

(54) Letter from commanding officer, General Hospital No. 8, to the Surgeon General, November 16, 1919. Subject: Final report of hospital. On file, Record Room, S. G. O., 323.72–3 (Gen. Hosp. No. 8) K.

CHAPTER XXVI.

GENERAL HOSPITALS, NOS. 9, 10, 11, 12, 13, 14, 15, 16, 17, AND 18.

GENERAL HOSPITAL NO. 9, LAKEWOOD, N. J.

The Lakewood Hotel, which was the nucleus of General Hospital No. 9, was situated at Lakewood, N. J., 69 miles southeast of New York City. It was in the pine region and winter resort section of the State, and was easily accessible to both New York City and Philadelphia by means of the Central Railroad of New Jersey. The hotel was leased from the Resort Hotel Co. in January, 1918, for $50,000 per year.[1]

The soil was sandy, the terrain gently rolling, affording excellent natural drainage.[2]

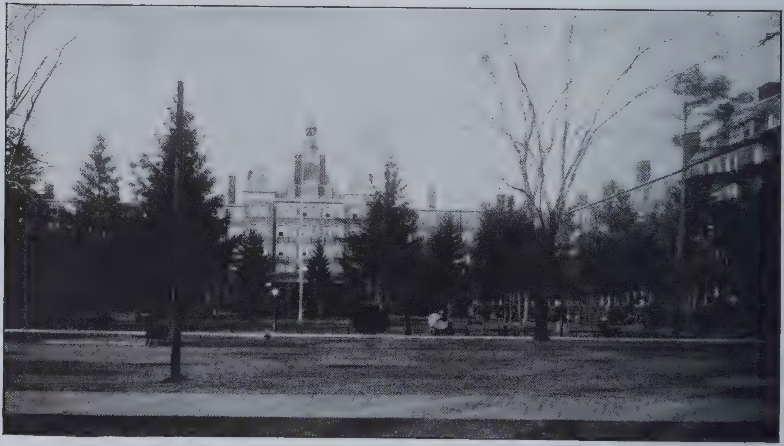

FIG. 173.—General Hospital No. 9, Lakewood, N. J.

To augment the bed capacity of the hospital, additional neighboring properties were subsequently leased. These were the Florence-in-the-Pines Hotel, the Aeolian Building, and an adjacent small tract of unimproved land.[1]

The Lakewood Hotel, the largest of the leased properties, was a five-story building of brick exterior, but of otherwise nonfireproof construction. Its design was attractive, in the shape of the letter U, the arms of which pointed to the south. Its first floor, with extensions rearward, contained the lobby, dining rooms, kitchen, billiard rooms, etc., and porches by which it was completely surrounded.[3]

The area of the first floor was 86,000 square feet, that of each of the floors above, 40,000 square feet; and there were, in all, 500 rooms.[3] The lease of this property covered not only the grounds, but all buildings, furniture, linen, silverware, dishes, etc.[1]

The Florence-in-the-Pines Hotel was a three-story frame building, much smaller in size than was the Lakewood Hotel; and in its lease, there were also included all buildings, furniture, linen, silverware, dishes, etc.[4]

The Lakewood Hotel was used as the hospital proper;[2] the Florence-in-the-Pines Hotel was utilized as quarters for nurses on duty at the hospital;[4] and the Aeolian Building was converted into a garage and storehouse.[5] On the unimproved tract of land temporary buildings were constructed to afford additional bedspace.[3]

On January 4, 1918, a small detachment of Medical Department personnel arrived at the Lakewood Hotel; and on January 10, it was formally taken over by the War Department.[5] By February 1, when it was officially designated General Hospital No. 9,[6] it had been placed in a reasonably satisfactory degree of readiness to receive a limited number of patients, the first of which, however, did not arrive until February 14, when 139 cases of scarlet fever were received, by transfer, from the hospital at Camp Merritt.[5]

The principal construction project entered into, in order to physically balance the hospital, comprised five two-story ward barracks, the addition of considerable kitchen equipment, and a heating plant to heat the newly constructed buildings as well as to augment the inadequate heating plant of the Lakewood Hotel building.[7] The total cost of this construction work was about $180,000. Much other construction and repair work, not included in the above statement, was done from time to time, which comprised screening, sanitary flooring, resetting of boilers in the hotel heating plant, improvement in the plumbing, the installation of operating rooms, physical reconstruction, and other special facilities. Prior to the completion of this work, the capacity of the hospital was 650 beds, but with the additional beds the capacity of the hospital was augmented to 1,000.[1]

General Hospital No. 9 was not a special hospital in any sense, the major portion of the patients treated being general medical and surgical cases, though it was designated to receive arthritis and orthopedic cases, and, on June 6, 1918, was made a center for cardiovascular diseases.[8] Its use as a general hospital was discontinued on May 31, 1919.

Statistical data, United States Army General Hospital No. 9, Lakewood, N. J., from February 4, 1918, to May 31, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.														
			By transfer.	Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1918.																	
February	......	14	139	4	157	16	.....	.....	.....	.....	.....	.....	.....	141	......	2,171	......
March	141	23	37	......	201	18	.....	.....	.....	.....	.....	.....	.....	183	......	4,609	......
April	183	46	150	12	391	157	.....	17	2	.....	.....	.....	10	205	......	6,705	......
May	205	51	141	......	397	80	2	18	.....	.....	.....	3	38	256	......	8,275	......
June	256	16	33	89	394	69	.....	35	4	.....	.....	30	40	216	......	6,888	......
July	216	22	187	107	532	66	2	20	3	1	.....	2	17	421	......	9,104	5
August	421	25	197	61	704	66	1	36	4	.....	1	8	24	564	......	10,961	3
September	564	82	143	113	902	132	4	34	4	.....	1	2	119	604	2	15,223	50
October	606	239	279	145	1,269	388	13	52	1	2	1	9	127	673	3	24,716	149
November	676	56	259	201	1,192	188	3	72	.....	2	.....	4	154	767	2	21,626	120
December	769	42	216	164	1,191	111	2	132	.....	2	1	103	237	603	......	58,940	16
1919.																	
January	603	62	315	166	1,146	103	6	56	.....	7	.....	12	216	746	......	25,332	2
February	746	80	414	127	1,367	109	1	46	1	9	.....	32	301	868	......	10,298	6
March	868	99	384	147	1,498	126	2	78	4	72	2	67	309	838	......	25,983	......
April	838	74	126	109	1,147	68	1	94	1	45	7	48	256	627	......	8,224	15
May	627	34	31	65	757	59	3	160	3	44	1	360	127	......	......	11,178	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 9, Lakewood, N. J., from February 4, 1918, to May 31, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
February	8	10	....	18
March	20	45	....	65
April	20	45	....	65
May	15	49	....	64
June	15	49	....	64
July	24	51	8	83
August	15	57	5	77
September	15	44	....	59
October	14	33	....	47
November	11	38	....	49
December	12	39	....	51
1919.				
January	12	36	....	48
February	10	47	....	57
March	8	45	....	53
April	8	45	....	53
May	7	42	....	49

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
February	25	....	1	26	74	27	101	39
March	29	....	1	30	66	28	94	39
April	31	....	1	32	147	28	175	43
May	29	....	1	30	150	30	180	130
June	31	....	1	32	163	30	193	86
July	43	....	1	44	212	34	246	68
August	40	4	3	47	223	60	283	85
September	45	6	2	53	334	67	401	79
October	49	10	2	61	329	63	392	87
November	61	10	2	73	356	90	446	118
December	54	12	3	69	359	109	468	111
1919.								
January	64	10	3	77	363	118	481	80
February	67	10	5	82	441	120	561	73
March	68	10	6	84	423	89	512	78
April	70	10	6	86	422	75	497	89
May	35	5	3	43	30	47	77	68

GENERAL HOSPITAL NO. 10, BOSTON, MASS.

General Hospital No. 10 was located in the city of Boston, Mass., and comprised two groups of buildings, and a separate building used for quarters and storage purposes. Of the two main groups, one was situated on Parker Hill in Boston and comprised the Robert Bent Brigham Hospital, which was leased by the Government from the trustees of that institution; a hospital especially constructed by the Benevolent and Protective Order of Elks, as a reconstruction hospital for the use of the War Department; and the Massachusetts Woman's Hospital, a short distance from the other buildings, but likewise on Parker Hill, which was leased from the trustees of that institution for use as nurses' quarters. The second group of buildings comprised the whole of the west department of the Boston City Hospital, situated in the suburb of West Roxbury, which was leased by the War Department from the city of Boston. In addition to these two groups of hospital buildings, a single large, two-storied barracks was leased from the Wentworth Institute of Boston. This barrack building had been erected for the use of student officers of the Reserve Officers' Training Corps. Its lower story was used by the hospital for the storage of supplies and the upper floor as quarters for the detachment, Medical Department. The two main groups, on Parker Hill and in West Roxbury, respectively, were separated by approximately 7 miles; the barracks at the Wentworth Institute was three-quarters of a mile from the summit of Parker Hill.[9]

The Robert Bent Brigham Hospital, with its equipment, drugs, and fixtures, was leased from the trustees at $55,000 per year.[10] Its bed capacity was 200. Immediately adjoining it, and on the same hill, commanding a beautiful view of the city, the Benevolent and Protective Order of Elks contemplated erecting a 250-bed hospital, the use of which they had tendered the Government. This offer was made in March of 1918 and was accepted by the War Department on the 26th of that month at a nominal lease of $1 per year.[11] At that time, however, the hospital had not been built; but representatives from the Elks, in consultation with officers of the Surgeon General's Office, obtained requirements and suggestions, and, proceeding upon this, they constructed the hospital, which was completed in the following December.

These two institutions, the Robert Bent Brigham Hospital and Elks' Hospital, formed the backbone of General Hospital No. 10. The Massachusetts Woman's Hospital, leased from the Woman's Charity Club at $2,500 per year,[10] and the Wentworth Barracks, leased from the Wentworth Institute at $1 per year,[10] the former for nurses and the latter for enlisted men and storage, completed the group of buildings in the city proper. The west department of the Boston City Hospital, tendered to the Government and leased at $1 per year,[12] from the city of Boston, had a capacity of 300 and was intended as a convalescent department of this general hospital.

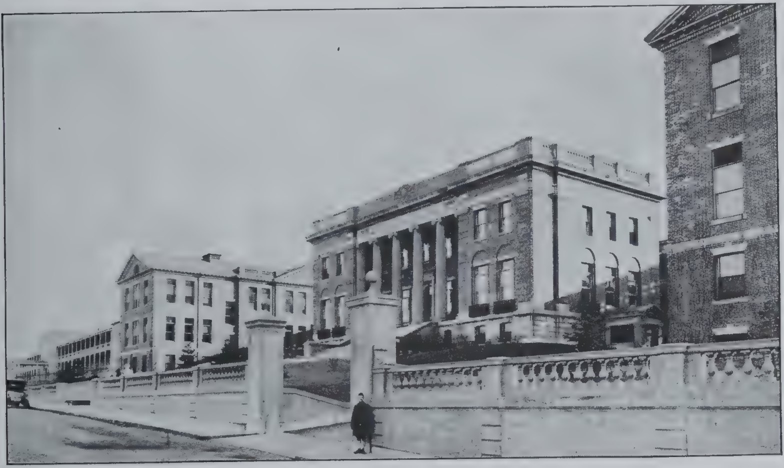

FIG. 174.—Portion of General Hospital No 10, Boston.

Leases on the Robert Bent Brigham property,[10] the Woman's Hospital,[10] and the West Roxbury property [12] became effective on October 1, 1918, and occupancy was assumed soon thereafter. The hospital as a whole was opened for patients in December, 1918, although the Elks' Hospital, not being completed until that month, was not utilized until January, 1919. The convalescent department at West Roxbury was opened at about the same time as the Elks' Hospital.[13]

The Robert Bent Brigham Hospital consisted of six three-story brick and stone buildings of modern design, and was fully equipped.[10] The Elks' Hospital, of semipermanent two-story pavilion type construction, consisted of one large main building with three wings, and three additional buildings in the rear, and was connected to the Robert Bent Brigham Hospital by corridor and tunnel,[10] the latter carrying the heating mains from the central heating plant in the Robert Brigham Hospital. The west department of the Boston City Hospital, consisting of 14 buildings of mixed character of construction, was beautifully situated and well adapted to the care of convalescents.[14]

The construction and alteration work done in connection with the establishment of this hospital consisted principally of corridor construction, connecting certain buildings in the west department and the installation, in that group, of messing facilities. Little alteration or addition was required in the group in the city. The total cost of this work was $46,000. The original authorized capacity was 900 beds, but this was later reduced to 700 beds.[15]

The hospital opened in December of 1918, and by February, 1919, 500 sick were being constantly cared for. It remained at this level for about one month, when the number rapidly increased to 800, near which it remained until May of that year.[16]

On May 28, 1919, the Surgeon General recommended the cancellation of all leases and the abandonment of the hospital, effective June 15, 1919.[17] Prior to the latter date the comparatively few patients requiring further treatment were sent to other general hospitals.[18]

Statistical data, United States Army General Hospital No. 10, Boston, Mass., from October, 1918, to June 17, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
October		1	2		3	1								2		7	
November	2	5	7	3	17	8								9		193	1
December	9	26	64	15	114	14	1						4	95		869	4
1919.																	
January	95	74	213	31	413	76	1					27		309		5,059	
February	309	55	354	3	721	72	1	5				62		580	1	14,317	28
March	581	74	316	7	978	106	1	24				114	4	729		19,343	6
April	729	29	319	86	1,163	69	2	18		1		183	5	885		25,710	
May	885	16	103	30	1,034	53	3	48	3			194	4	729		24,291	
June	729	5	33		767	63		128	1			568	7			178	

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
October		18		18	January		129		129
November		97		97	February		180		180
December		116		116	March		165		165
					April		168		168
					May		67		67

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 10, Boston, Mass., from October, 1918, to June, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Aides and workers.	Other civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous. (Q. M. C., etc.)	Total.	Medical Department.	Miscellaneous. (Q. M. C., etc.)	Total.			
1918.										
September	3	1	....	4	....	....	....	....	....	....
October	4	5	1	10	55	....	55	9	....	....
November	21	8	2	31	60	11	71	33	....	....
December	42	14	2	58	578	62	640	36	....	1
1919.										
January	45	14	2	61	467	63	530	38	....	1
February	43	15	5	63	435	81	516	55	....	2
March	45	15	5	65	504	81	585	55	....	2
April	47	12	6	65	468	60	528	69	....	2
May	38	11	6	55	467	42	509	80	....	2

GENERAL HOSPITAL NO. 11, CAPE MAY, N. J.

The Hotel Cape May was located on the Ocean Drive, at the eastern end of the city, and within 100 feet of the beach of the Atlantic Ocean. It was a large H-shaped, eight-story building of brick and stone construction, and contained 338 rooms,[19] 125 fresh and salt water baths, two large lobbies, spacious dining rooms, kitchen, and storage facilities. To its rear, and component parts of the property, were a brick boiler house, a garage, and a laundry building.[19] The laundry was a three-story frame building, on the first floor of which there was a complete equipment for laundry work; and on the second and third floors were rooms which had been used as quarters for the hotel employees. Still farther removed to the rear, and also belonging to the hotel property, were 20 cottages, and several vacant lots.[19]

The hotel had its separate sewerage system,[19] which discharged into Delaware Bay; and its own lighting system,[19] the energy of which was obtained from the central heating plant. Its water supply was that of the city of Cape May, which was obtained from artesian wells.[20]

The soil was very sandy, leaving no subsequent traces of rain, and there was, in consequence, no mud problem with which to deal. The seasons of the year were well tempered by the adjacent ocean, so that during the summer there were few hot days, with the nights always cool, and during the winter, moderate weather, with high winds only in March and April.

The roads about the place were constructed principally of gravel and were maintained in an excellent condition.[20]

The general sanitary condition of the neighborhood was satisfactory; the hotel was quite separate from the city proper; and there was no marsh land near by, though in summer the far-famed Jersey mosquitoes abounded in great numbers.

On December 18, 1917, the Surgeon General recommended that the War Department authorize the leasing of the Cape May Hotel for use as a general hospital.[21] This property had been offered by the Cape May Hotel Co. at a rental of $99,000 yearly,[22] and it had been investigated by representatives of the Surgeon General's Office. The lease was approved by the Secretary of

War, and was executed by the Quartermaster General's Office, January 15, 1918, to be effective on January 20, at the yearly rate quoted.[23]

The hotel had not been occupied for a year or two, and had been greatly neglected. The pipes of the water and heating systems throughout the main building were in bad condition; many of them had become broken, due to the settling of the walls; and having been incased in the walls, the resultant leaks had caused unsightly discolorations, and dampness in many parts of the building. These defects were difficultly located and repaired, many in fact not being discoverable until after the building had been put into use.

The work of alteration and repair comprised principally the correction of the defects in plumbing, though adequate measures in this regard were not instituted at the time the control of the building was assured by the War Department. There had been considerable expression of objection, outside the War Department, to what was claimed to be an excessive rental agreed to in the lease. Based on these statements was the War Department's conclusion to discontinue the lease of the property on June 30, 1918, though the Inspector General's Office had reported the hotel as being well suited for hospital purposes, recommending at the same time, however, that it be obtained for a rental of not over $60,000.[19] Throughout the controversial period, the Surgeon General's Office had maintained that $99,000 was not considered an excessive amount. Ultimately, the owners of the hotel agreed to an annual rental of $50,000, for any time it might be used after June 30, 1918; and the War Department reversed its decision not to make further use of the property, approving, on August 7, 1918, a renewal of the lease, at $50,000 a year, effective July 1, 1918.[24]

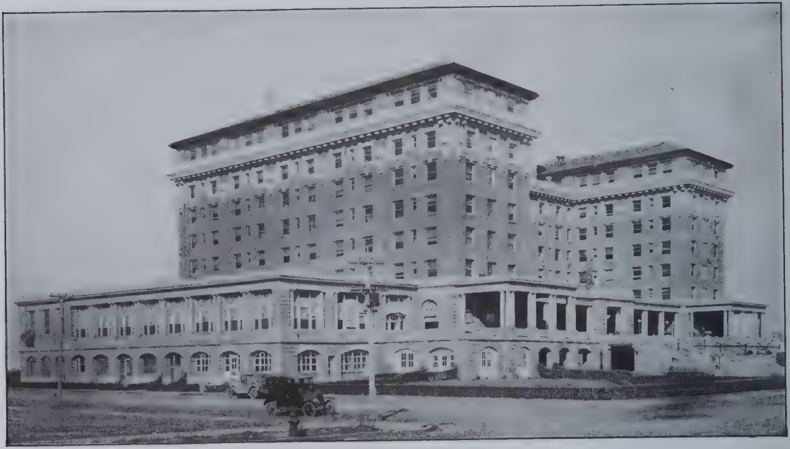

FIG. 175.—General Hospital No. 11, Cape May, N. J.

Because of the condition of uncertainty, which lasted until August 7, as to what the final status of the hotel would be, in so far as the War Department's use of it was concerned, progressive activity in the hospital was at a standstill, and comparatively few patients were admitted. In the fall of 1918, however, work on the needed repairs and alterations was resumed.

Opened first as General Hospital No. 16, the designation was changed to General Hospital No. 11, March 14, 1918.[25] The hotel building was used practically exclusively for patients, and its authorized bed capacity was 750. Of the 20 cottages, 5 were used as isolation wards, and the remainder for quarters for officers, nurses, and reconstruction aides.[19] The enlisted personnel were quartered in tents which were located to the rear of the laundry building.[20]

After the definite status of the hospital had been established, its number of patients was increased, and by October, 1918, 600 sick were under treatment.[26] During the months following, until July, 1919, the number of patients varied from 500 to 690.[26] In addition to a large number of general medical and surgical cases, this hospital cared for the following special types of cases: Deafness, eye, ear, nose, and throat diseases, maxillofacial injuries, organic diseases of the nervous system, peripheral nerve injuries, speech defects (not neurotic), and wounds or injuries of the skull or brain and spinal cord.

On July 20, 1919, due to the fact that the inflow of sick and wounded from the American Expeditionary Forces had practically ceased, and that the Medical Department now possessed sufficient facilities or Government owned property to adequately care for the sick of the Army, General Hospital No. 11 was abandoned, and all activities under Medical Department control were removed.[27] The lease, however, could not be terminated at this time, and the payment of rental until August 23, 1919, was essential to afford adequate time for the removal of all Government property.[28]

Statistical data, United States Army General Hospital No. 11, Cape May, N. J., from February, 1918, to August 4, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
February		10			10	4	1							5			
March	5	22			27	22								5		205	
April	5	76	47	3	131	49	1					2		79		1,913	
May	79	38	47	2	166	55		12					3	96		2,851	
June	96	18	32	13	159	28		18				2	20	91		2,817	
July	91	37	39	15	182	29		1				4	31	117		3,545	
August	117	21	64	23	225	47	1	3					22	152		4,456	
September	152	53	125	35	365	40		6			2	6	96	215		8,664	
October	215	46	457	81	799	95	4	16			3	5	36	639	1	12,688	6
November	640	37	245	89	1,011	82		51				113	196	569		17,512	9
December	569	39	382	195	1,185	55		104					445	581		18,606	29
1919.																	
January	581	71	212	319	1,183	52		48				209	182	692		19,047	31
February	692	57	214	166	1,129	236	1	26				5	198	655	1	8,773	28
March	656	38	187	183	1,064	206		26				12	167	652	1	20,080	31
April	653	56	189	150	1,048	173	1	28				33	201	607	7	18,041	118
May	614	36	120	192	962	162	1	46				19	147	576	11	20,306	237
June	587	15	25	124	751	139	2	45				47	45	473	5	16,805	102
July	478	7		12	497	30		28				428	10	1		3,032	19
August	1				1								1			3	

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, The Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 11, Cape May, N. J., from February, 1918, to August 4, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
February	12	87	1	100	January	1	54	....	55
March	19	24	1	44	February	3	51	....	54
April	6	24	....	30	March	8	57	....	65
May	3	30	2	35	April	20	61	....	81
June	2	14	....	16	May	33	66	....	99
July	2	17	....	19	June	51	65	....	116
August	3	17	....	20	July	35	7	....	42
September	3	29	....	32	August	34	3	....	37
October	3	33	....	36					
November	3	37	....	40					
December	2	44	....	46					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
February	2	2	....	4	31	45	76	....
March	13	3	1	17	42	45	87	31
April	17	2	1	20	151	44	195	55
May	24	2	1	27	154	43	197	56
June	36	5	2	43	178	43	221	58
July	12	3	1	16	116	43	159	16
August	17	4	1	22	150	43	193	32
September	18	7	2	27	158	40	198	33
October	21	8	2	31	206	52	258	41
November	26	7	3	36	206	69	275	52
December	35	11	3	49	249	82	331	51
1919.								
January	46	11	3	60	328	86	414	50
February	46	12	3	61	315	84	399	52
March	45	11	5	61	335	79	414	54
April	46	11	5	62	331	62	393	55
May	41	10	7	58	328	37	365	60
June	36	8	7	51	323	21	344	54
July	2	2	5	9	188	....	188	2
August	....	1	2	3	3	....	3	....

GENERAL HOSPITAL NO. 12, BILTMORE, N. C.

At Biltmore, N. C., on the site of the old Kenilworth Inn, which was destroyed by fire in 1908, there was being erected, in the fall of 1917, a new structure, the design of which was that of a modern, high-class, resort hotel. On December 20, 1917, the Surgeon General recommended that this building be leased from the Kenilworth Co. at $115,000 per year for the first year of governmental occupancy, and at $75,000 rental for each succeeding year.[29] The recommendation was approved by the Secretary of War on January 2, 1918, and the control of the property was assumed by the Medical Department.[30]

The inn was located in Buncombe County, about 2 miles from the business center of Asheville, a town with an estimated permanent population of 35,000, though, because of its international popularity as a health resort, there was frequently an increase of its population to 150,000.

The Asheville plateau upon which Kenilworth was situated, is a circular plateau, comprising 2,000,000 acres, the perimeter of which is a complete circle of mountain peaks. The rolling hills, generous plateaus, and wide valleys of the locality afforded an ideal place at which to locate a hospital. The soil was composed principally of a sandy loam with, here and there, outcroppings of light gravel, which obviated the possibility of flying dust. The average mean temperature, as observed, was 35°; and the air was dry and invigorating.

The city of Asheville had 45 miles of paved streets, all connecting with the roads which led to Kenilworth. The roads through Kenilworth connected with Biltmore Avenue at the west entrance, and with Swannanoa River Road at the south entrance. Both of these roads were of concrete.

Surrounding the Kenilworth Inn was a tract of land, 15 acres in extent, belonging to the hotel company, on which was located a group of dwellings. These were particularly desirable as adjuncts to the hotel, since they had been placed upon the same knoll as had the inn. Authority was therefore obtained to lease some of them—five cottages, a two-story residence, and a building, called the All Souls' Crescent—for officers' quarters, and three dwellings for quarters for nurses.

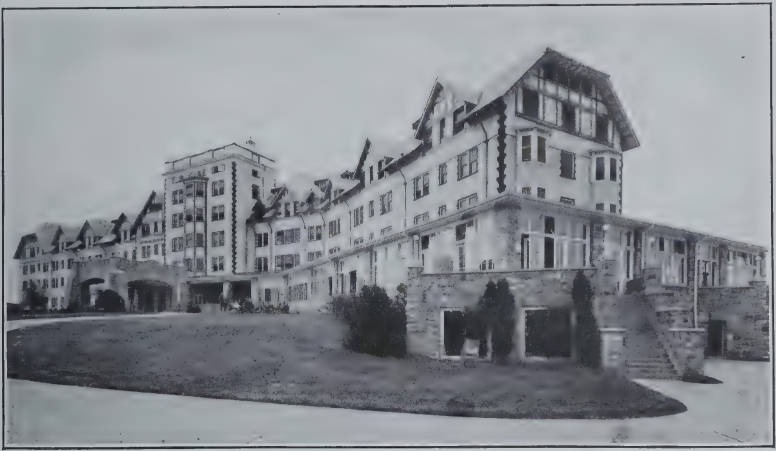

FIG. 176.—General Hospital No. 12, Biltmore, N. C.

Two buildings in Biltmore were leased; one of them, adjacent to the railroad station, for receiving, storing, and issuing supplies; the other, two blocks distant, for quarters for the personnel of the Quartermaster Corps on duty at the hospital.

The main hotel building, a splendid five-story structure, roughly T-shaped in design, faced south, overlooking a mountainous country of great beauty. It was built of hollow tile and cement and was considered fireproof. It had many features which made it highly desirable for a hospital, among which were an excellent water supply, an adequate sewerage system, an independent electric-light plant, freight and passenger elevators, and broad and attractive verandas especially well adapted for the care of the sick. Immediately adjacent to the building there was sufficient room for the erection of an adequate number of temporary buildings for expansion.[31]

Little construction or alteration work was done at this place, the majority being accomplished in the spring and summer of 1918. It consisted of installation of cooking equipment, inclosing verandas, installing temporary partitions, painting, and other minor details incident to the completion of the construction to suit Government needs rather than those of the hotel company. The total cost of this work was $30,000.

It was designated a general hospital March 14, 1918,[32] and was opened for sick in the following May.[33] In the basement a laboratory, dispensary, mess hall for the detachment, Medical Department, the steam heating plant, Young Men's Christian Association, various offices, etc., were located.[34] On the first floor, in addition to the offices for the administrative work of the hospital, one of the largest wards, 52 beds, was located. This was to have been the hotel parlor, and it was a very light, spacious, and attractive room. On this floor some smaller wards and the dining rooms for patients and officers were also located.[34] The second, third, and fourth floors were practically similar, and there the majority of space was divided into small wards of one, two, and three beds each.[34] A noteworthy feature of the hospital was the spacious verandas which surrounded a large part of the first floor.[34]

The actual capacity of the hospital proved to be 450 beds, and in this respect it did not meet the expectations of those who made the preliminary surveys. It was opened for sick in May, 1918, with a capacity of 200 beds,[35] and by June the maximum capacity, 450 beds, had been provided.[36] By July the number of sick receiving treatment had reached 400, at which point it remained until November, when it suddenly dropped to 250, and then fluctuated between this point and 400 until August, 1919.[37]

Although surgical facilities were provided, little surgery was done until 1919, at which time a considerable number of empyema cases was concentrated here, and from then on surgical work was confined to the treatment of empyemas.

On September 1, 1919, the hospital was closed[38] on the recommendation of the Surgeon General, which had been made May 28,[39] and approved by War Department June 6;[40] and in conformity with the act of Congress, March 3, 1919, it was transferred to the United States Public Health Service.[41]

Statistical data, United States Army General Hospital No. 12, Biltmore, N. C., from April, 1918, to August 31, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
April	......	12	......	......	12	11	......	......	......	......	......	......	......	......	1	......	38
May	1	17	7	2	27	12	......	......	......	......	......	......	......	15	......	70	84
June	15	11	216	8	250	18	......	1	......	......	......	......	2	229	......	2,451	......
July	229	12	88	10	339	35	2	1	......	......	......	......	26	275	......	8,583	......
August	275	6	218	50	549	89	12	3	......	......	2	1	45	397	......	11,290	......
September	397	13	41	23	474	66	1	4	......	......	......	......	22	381	......	13,147	......
October	381	46	28	26	481	87	3	5	......	......	......	5	15	366	......	11,284	......
November	366	36	37	16	455	84	1	8	......	......	......	3	193	166	......	7,644	......
December	166	31	140	57	394	47	3	37	......	......	......	6	90	210	1	6,851	......
1919.																	
January	211	57	55	82	405	140	6	25	......	9	......	3	24	197	1	7,309	......
February	198	16	128	20	362	66	2	28	......	9	......	2	29	226	......	5,669	......
March	226	15	189	24	454	28	5	15	......	2	......	7	50	347	......	7,906	......
April	347	29	148	52	576	34	3	40	......	4	......	7	115	373	......	10,227	......
May	373	20	93	85	571	37	1	32	......	12	......	8	124	357	......	11,616	4
June	357	21	73	84	535	26	2	16	......	4	......	12	150	325	......	9,998	......
July	325	15	63	90	493	20	......	48	......	4	......	7	93	321	......	7,755	10
August	321	9	8	32	370	26	1	103	......	2	......	131	107	......	......	5,443	......

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
April	21	2	1	24	181	7	188	......
May	20	3	1	24	184	13	197	27
June	21	3	1	25	142	13	155	45
July	24	4	1	29	179	13	192	47
August	21	4	1	26	189	23	212	48
September	21	4	1	26	188	41	229	59
October	18	5	1	24	178	22	200	50
November	20	5	1	26	175	24	199	53
December	25	5	2	32	217	29	246	52
1919.								
January	29	6	4	39	190	29	219	47
February	26	5	4	35	191	37	228	45
March	27	5	5	37	183	32	215	44
April	32	5	5	42	203	25	228	43
May	32	6	8	46	220	12	232	46
June	27	6	7	40	226	6	232	57
July	24	5	5	34	217	6	223	56
August	13	4	4	21	71	2	73	49

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[a] Compiled from monthly returns, and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 13, DANSVILLE, N. Y.

On December 20, 1917, the Surgeon General requested the authority of the War Department to lease, for hospital purposes, the Jackson Sanatorium at Dansville, N. Y., with all its furniture and equipment.[42] This was approved on January 2, 1918,[43] and a lease was executed on the 18th of that month to be effective on February 1. The yearly rental was $49,880.[44]

The property consisted of one main building, a large four-story brick structure, and a number of smaller ones.[45] The main building was intended for the hospital proper and the other buildings were to accommodate other necessary activities. Seven frame cottages, near by, were planned for quarters for medical officers; one large frame cottage was to be used for nurses, and two large frame buildings for the enlisted personnel. It was believed that the property could be operated as a 500-bed general hospital, and was designated as General Hospital No. 18, and personnel and supplies were sent there.[46] Several thousand dollars were authorized for some minor repairs and alterations, and some of this money was expended in preparing the hospital for early occupancy by the sick. However, as General Hospital No. 18 it never opened for sick.

It now became apparent that the capacity of this place had been overrated and that it would not be adequate for the care of more than 200 or, at the most, 300 sick. The conviction that only large hospitals should be established now became more and more pronounced in the Surgeon General's Office, consequently, early in May, the Surgeon General recommended to the War Department that the lease on this property be canceled.[47] It was evident that the hospital could not be economically operated, at least at a rental of $49,880 a year, and that the enlargement, by new construction, to a capacity of 1,000 beds was not warranted. Cancellation of the lease was promptly approved[48] and the owner notified.

There appears to have been a misunderstanding between the agents of the War Department and the owner as to the intention of the Government. Although the lease terminated June 30, 1918, the president of the Sanatorium Co. stated in effect that he had been led to understand it was the War Department's agreed intention to renew the lease annually until the war was over. Negotiations were entered into anew with the owner, a new lease was agreed upon, and its approval was requested by the Surgeon General on June 29, 1918.[49] The new lease, however, did not become effective until July 18, and it carried an annual rental of $20,000 instead of $49,880, and included some additional property not orignially obtainable;[50] otherwise it was essentially the same as the first lease.

In the meantime, the medical personnel and property had been removed to Richmond, Va., to establish there, on other leased property, a hospital for the Port of Embarkation, Newport News.[51] A new organization, consisting of officers, nurses, and men, was sent to Dansville, and preparation was made anew for the opening of what, in the meantime, had become General Hospital No. 13.[52] Any idea of developing here a large hospital had been given up. It was found that the place would serve admirably as a hospital for psychoneuroses and was accordingly so announced to the ports of debarkation. The total expenditure at this place did not exceed $6,000.

Though little was done in physical alteration or repair, the hospital was slow in opening. However, in November, 1918, it was ready for the reception of 275 sick; and 100 patients, afflicted with psychoneuroses, were at once sent there for treatment.[53] In a few weeks the number had been increased to over 200, and the hospital continued to operate at about that capacity until March, 1919. By this time problems of the Medical Department, relating to the accommodation of the sick returning from France, had been practically solved, and it was determined to discontinue the use of this hospital, and the cancellation of all leases was recommended on March 12.[54] The United States Public Health Service had expressed its desire to acquire this property, and, in accordance with the act of Congress, March 3, 1919, its transfer to that service was effected on April 21.[55]

Statistical data, United States Army General Hospital No. 13, Dansville, N. Y., from March, 1918, to March, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
March		5		1	6	4								2		50	
April	2	8	2		12	11								1		25	
May	1	2			3	3											
October		3		1	4	2							1	1		38	
November	1	6	100		107	4						1		102		658	
December	102	14	135		251	8		2				2	2	234	3	5,941	10
1919.																	
January	237	31			268	24		42				4		197	1	6,879	46
February	198	43	32		273	35		67				6		165		4,976	
March	165	13			178	19		44				109	6			2,532	

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
March	13	20		33
April	11	25		36
May	11	22		33
June	7	7		14
October	1			1
November	2			2
December	9			9
1919.				
January	9			9
February	7			7
March	18			18

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Aides and workers.	Other civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.			
1918.										
March	15	4	1	20	80	9	89	24		
April	12	3	1	16	80	12	92	26		
May	7	3	1	11	61	20	81	23		
June	7	3	1	11	76	20	96			
July		1		1	16		16			
August	1	1		2	16		16			
September	1	2	1	4	27		27			
October	5	5	2	12	31	1	32			
November	10	4	3	17	149	39	188	26		6
December	17	4	3	24	202	66	268	30		9
1919.										
January	19	4	3	26	202	69	271	27		7
February	15	4	3	22	166	82	248	25		16
March	1	3	2	6	30	58	88			24

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 14, FORT OGLETHORPE, GA.

Prior to the war Fort Oglethorpe had been used as a permanent garrison for a regiment of cavalry. It comprised approximately 75 buildings, the major portion being of brick construction, the remainder of frame material. The buildings included a permanent post hospital, post headquarters, barracks, officers' quarters, etc., for which there were a post sewer system and a water supply, the latter having connections with the water supply of the city of Chattanooga.[56]

Included in the general plan of the Surgeon General to procure the buildings of permanent garrisons in their entirety for use as hospitals, a specific request was made for the use of the buildings at Fort Oglethorpe on May 18, 1917.[57] Favorable action was taken by the War Department on June 23, and the Secretary of War caused a telegram to be sent to the commanding general of the Southeastern Department directing him to "make available the permanent barracks at this station for general base hospital use."[58]

On June 25, 1917, the Surgeon General telegraphed the surgeon, Southeastern Department, to direct the post surgeon at Fort Oglethorpe to make plans for converting the post into a general hospital and to send, by telegram, information concerning any additional temporary buildings which he might think would be needed.[59] Prior to this time, the Surgeon General had authorized the construction of four temporary wards, five frame storehouses, and a frame mess hall and kitchen, to provide adjuncts to the post hospital; and, in addition, had permitted certain repairs to and alterations of the original post hospital building to improve its condition.[60] A regimental infirmary had also been constructed.[60] This physical expansion was to provide hospitalization facilities for the sick of the increasing number of troops then stationed at Fort Oglethorpe.

Because of its increased activities, the hospital at Fort Oglethorpe functioned somewhat as a base hospital, but it was actually administered as a post hospital, this status obtaining until July 14, 1917, when it was changed to a provisional base hospital, by General Orders, No. 23, issued from headquarters, Fort Oglethorpe, on that date.

Beginning in September, and continuing throughout the fall of 1917, authorizations for 18 temporary hospital buildings, and many smaller projects comprising alterations and repairs, were approved by the Surgeon General. During the winter 1917–18, and the following spring and summer, an equal number of additional temporary buildings, together with many small projects for improvements, were authorized.[61] In all, 42 buildings were added to the post; and a maximum capacity of 2,000 beds was reached in the summer of 1918.

On November 15, 1917, the commanding general, Southeastern Department, complying with instructions which he had received from The Adjutant General's Office, changed the status of the provisional base hospital back to that for post hospital.[62] The Surgeon General then endeavored to have it made a general hospital, but he was unsuccessful in his efforts until March 14, 1918, when, with over 1,200 patients under treatment, it became General Hospital No. 14.[63]

No specialties were accentuated at this hospital, although a complete physical reconstruction service was developed. General medical and surgical cases were treated.

On May 22, 1919, the Surgeon General recommended the discontinuance of General Hospital No. 14, and its reorganization into a post hospital.[64]

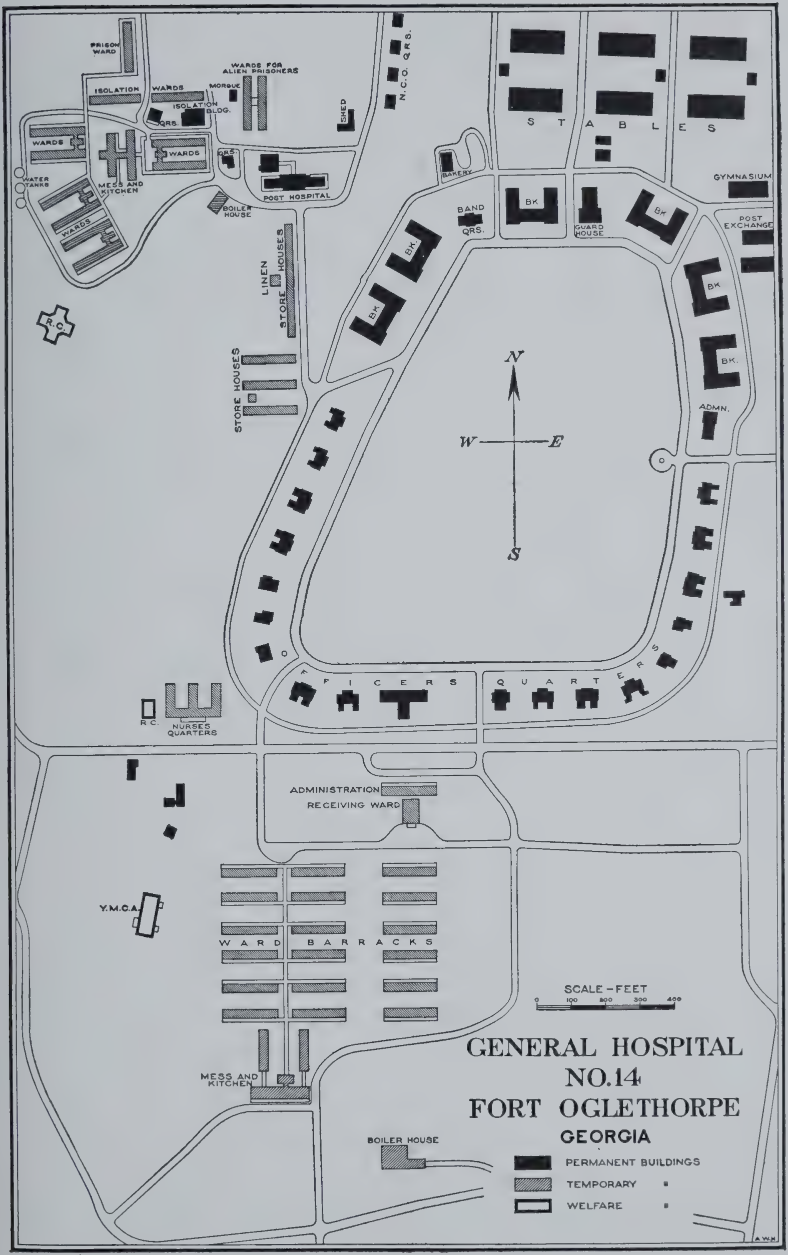
PRISON WARD
ISOLATION
WARDS
WARDS FOR ALIEN PRISONERS
MORGUE
ISOLATION BLDG.
QRS.
WARDS
WARDS
QRS.
WATER TANKS
MESS AND KITCHEN
WARDS
BOILER HOUSE
POST HOSPITAL
N.C.O. QRS.
SHED
STABLES
BAKERY
BAND QRS.
BK
GUARD HOUSE
GYMNASIUM
POST EXCHANGE
LINEN
STORE HOUSES
STORE HOUSES
R.C.
N
W
E
S
ADMN.
OFFICERS QUARTERS
R.C.
NURSES QUARTERS
ADMINISTRATION
RECEIVING WARD
Y.M.C.A.
WARD BARRACKS
MESS AND KITCHEN
BOILER HOUSE
SCALE - FEET
0 100 200 300 400
GENERAL HOSPITAL
NO.14
FORT OGLETHORPE
GEORGIA
PERMANENT BUILDINGS
TEMPORARY
WELFARE
A.W.H.

FIG. 177.

Statistical data, United States Army General Hospital No. 14, Fort Oglethorpe, Ga., from March 17, 1918, to June 6, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
March	1,243	114	1,716	39	3,112	1,643	14	33	3	......	1	54	37	1,327	......	38,722	6
April	1,327	109	1,316	90	2,842	1,436	21	59	4	......	......	98	37	1,187	......	25,242	4
May	1,187	38	1,514	63	2,802	1,386	15	44	3	......	......	28	35	1,291	......	31,421	24
June	1,291	28	1,375	37	2,731	1,380	5	29	......	......	......	32	72	1,213	......	41,731	15
July	1,213	60	1,446	45	2,764	1,344	8	41	......	......	9	20	32	1,310	......	36,779	19
August	1,310	59	1,917	33	3,319	1,862	7	45	......	......	2	25	62	1,316	......	44,394	......
September	1,316	49	2,405	35	3,805	1,649	7	54	......	......	......	40	141	1,914	......	44,936	......
October	1,914	356	4,120	23	6,413	3,816	487	41	......	......	10	9	83	1,955	12	55,306	800
November	1,967	113	1,292	15	3,387	1,687	88	47	......	......	......	21	215	1,319	10	48,930	352
December	1,329	120	1,183	17	2,649	1,583	14	86	......	......	......	6	75	880	5	32,062	100
1919.																	
January	885	118	796	27	1,826	727	15	56	......	24	......	100	19	885	......	28,726	24
February	885	58	429	14	1,386	320	1	78	......	172	......	78	21	708	8	22,698	122
March	716	61	523	29	1,329	521	3	84	......	35	......	10	27	645	4	22,565	120
April	649	37	450	41	1,177	507	3	83	......	......	......	42	24	515	3	17,895	113
May	518	29	344	36	927	446	1	58	......	......	......	14	43	365	......	14,600	22
June	365	8	38	8	419	65	......	9	......	......	......	5	5	335	......	3,796	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
March	108	217	101	426	January	83	164	107	354
April	105	218	101	424	February	76	160	103	339
May	104	327	109	540	March	82	163	109	354
June	97	123	101	321	April	67	162	105	334
July	99	178	111	388	May	63	157	122	342
August	96	175	105	376	June	62	155	121	338
September	96	173	117	386					
October	92	174	117	383					
November	87	169	113	369					
December	92	167	115	374					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
March	94	....	....	94	528	....	528	104
April	84	3	1	88	528	1	529	121
May	96	3	2	101	558	1	559	137
June	97	3	3	103	565	20	585	114
July	110	3	3	116	613	....	613	140
August	111	3	3	117	762	....	762	128
September	121	6	3	130	744	....	744	160
October	124	5	3	132	886	....	886	193
November	132	7	3	142	905	....	905	201
December	98	10	4	112	1,039	....	1,039	153
1919.								
January	86	8	3	97	926	....	926	90
February	78	8	1	87	817	....	817	84
March	67	8	3	78	574	....	574	77
April	58	9	5	72	502	....	502	67
May	44	8	3	55	401	....	401	42

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 15, CORPUS CHRISTI, TEX.

On January 25, 1918, the Surgeon General recommended that the Corpus Beach Hotel and Bathing Pavilion, at Corpus Christi, be leased for use as a hospital.[65] In addition to the hotel, there were small cottages and other frame buildings, 10 in all, and 17 acres of unimproved land potentially useful for hospital expansion purposes, the whole being leased for $6,000 a year.[65]

It was the primary intention of the Surgeon General to have established here either a convalescent hospital,[65] or a reconstruction hospital as the term was then used. But the place at best was small, and especially so when compared with other properties that were being developed or to be developed. It did have, however, the advantages of climate that could not be well disregarded in the treatment of the large number of convalescents which it was reasonable to expect from a war of first magnitude.

After the lease of the hotel had been approved and executed, the first work looking to the physical development of the hospital was authorized by the Surgeon General in March, 1918;[66] and a few additional items covering alterations and repairs were authorized in the spring and summer following, but they were of a minor nature, and the cost of the whole did not exceed $3,000.

On March 21, 1918, the hospital was designated General Hospital No. 15,[67] and it was opened for the reception and care of the sick on April 7, 1918,[68] at a bed capacity of 100. Within a few weeks thereafter the entire property was made available for use, thus increasing its bed capacity to 215, which, without crowding, was the maximum.

The development of the hospital, beyond the potential capacity of the existing available buildings, was adversely decided upon, for the time being, and, on July 26, 1918, it was rated as a convalescent hospital only, the surgeons, ports of debarkation, being so informed in order that they would select suitable cases for transfer thereto.[69] Neither reconstruction activities nor specialties were developed. The hospital soon filled, and for a part of the summer of 1918 its capacity was exceeded, but the average number of patients under treatment at the hospital was 200.[70]

On February 26, 1919, the abandonment of the hospital was directed by the War Department.[71] Active steps were at once taken to carry this measure into effect, and on February 28 all patients requiring further treatment were transferred to the hospital at Camp Travis, Tex. While the abandonment was being effected, Congress enacted legislation which necessitated the United States Public Health Service assuming control of the hospital. There was some delay incident to the transfer of the control of the hospital, due to unfamiliarity with the requirements of the new law, but it was finally accomplished on May 31, 1919.[72]

Statistical data, United States Army General Hospital No. 15, Corpus Christi, Tex., from April, 1918, to May, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
April	......	4	126	......	130	......	......	......	......	......	......	......	......	130	......	653	......
May	130	9	161	2	302	63	......	......	......	......	......	......	5	234	......	4,351	......
June	234	26	33	14	307	121	1	1	......	......	......	......	10	174	......	6,412	......
July	174	12	174	13	373	84	......	......	1	......	......	1	1	286	......	7,848	......
August	286	37	7	10	340	61	1	2	......	......	......	13	4	259	......	8,008	......
September	259	5	27	25	316	144	......	1	......	......	......	......	17	154	......	10,346	......
October	154	25	24	55	258	48	1	6	1	......	......	5	11	186	......	2,718	......
November	186	7	32	14	239	101	1	6	......	......	......	1	17	113	......	10,399	......
December	113	19	35	8	175	80	......	4	......	......	......	1	20	70	......	7,377	......
1919.																	
January	70	20	107	26	223	93	4	2	2	......	......	3	31	88	......	1,600	......
February	88	11	54	24	177	82	1	1	......	......	......	75	18	......	......	3,880	......
March	......	3	......	2	5	3	......	......	......	......	......	1	1	......	......	60	......
May	......	1	......	......	1	1	......	......	......	......	......	......	......	......	......	......	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
April	....	....	....	....	January	....	28	3	31
May	1	7	....	8	February	....	28	3	31
June	....	24	3	27	March	....	2	....	2
July	....	23	3	26	April	1	....	....	1
August	....	23	3	26	May	1	1	....	2
September	....	23	3	26					
October	....	26	3	29					
November	....	26	3	29					
December	....	27	3	30					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
April	12	1	1	14	52	7	59	10
May	11	1	2	14	53	6	59	10
June	10	1	2	13	106	8	114	12
July	10	1	1	12	115	11	126	12
August	12	1	1	14	110	10	120	14
September	12	2	1	15	104	17	121	13
October	12	2	1	15	100	17	117	14
November	11	3	1	15	100	16	116	3
December	12	3	1	16	100	36	136	5
1919.								
January	14	2	1	17	96	35	131	12
February	9	2	1	12	88	49	137	11
March	2	1	4	7	18	39	57	....
April	1	1	1	3	14	20	34	....
May	1	1	1	3	2	1	3	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 16, NEW HAVEN, CONN.

The William Wirt Winchester Memorial Tuberculosis Hospital was situated 2 miles west of New Haven, Conn., on a spur of the New York, New Haven & Hartford Railroad. It was a small hospital, which had just been completed, but it embodied modern ideas of the required facilities for the treatment of tuberculosis. It was connected with the city by macadam road and an electric railway; and the buildings, comprising a three-story administration building, an east ward, a west ward, two dormitories, a private ward, and a nurses' home, were situated on a wooded knoll which afforded a pleasant outlook on the city and the surrounding country. The buildings were of brick, colonial in design, and were connected by corridors, but were not fireproof. The hospital had been constructed by the General Hospital Society of Connecticut for the especial purpose of treating cases of tuberculosis, and was affiliated with Yale University. Its capacity was estimated as being 200 beds.[73]

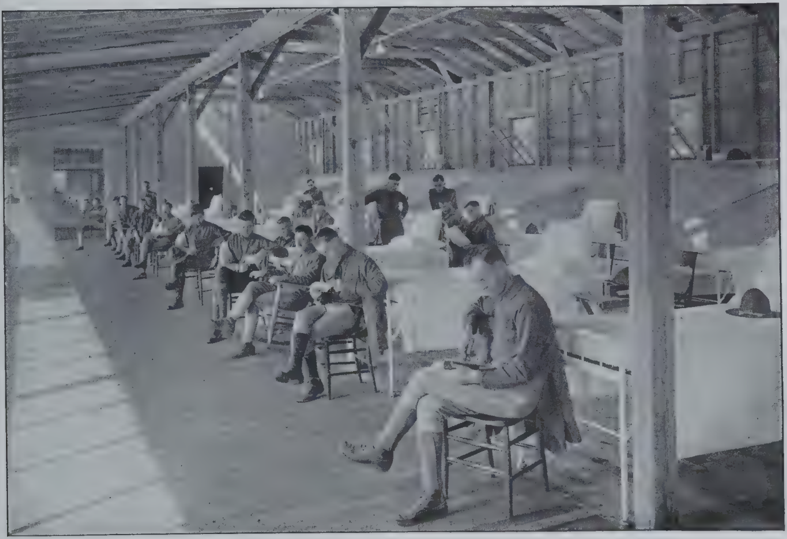

FIG. 178.—Open-air tuberculosis ward, General Hospital No. 16, New Haven, Conn.

On February 8, 1918, the Surgeon General recommended that this hospital be leased with the view to its use as a general hospital for the treatment of tuberculosis.[74] His recommendation was approved by the Secretary of War on February 12, and the lease was executed on the 26th, the monetary consideration being $26,000 per year.[75]

On March 21, 1918, the hospital was designated General Hospital No. 16,[76] and was opened and used, as it had been originally constructed, for the care of 200 sick. In April the 200 beds were almost fully occupied.[77]

At this time there was great need for increasing the total number of available beds for the tuberculous, and it was decided to enlarge General Hospital No. 16; consequently, negotiations were entered into and leases secured for suitable adjoining property upon which temporary buildings could be constructed. On March 18, the construction of 10 open-air wards, a kitchen and mess hall for the sick, nurses' quarters for 26 nurses, a storehouse, a hospital exchange, three barracks, a kitchen and mess hall for the enlisted personnel of the Medical Department, and a guardhouse were authorized by the Surgeon General.[78] The construction of these additional buildings was begun on May 21, and within a month some of them had been completed and occupied. By September 5, they had all been finished and occupied. Later it was necessary to add four more buildings,[79] which were completed on October 1, 1918; but some other minor construction and alteration work was found necessary from time to time. The total cost of the work done on the hospital was $350,000; and 500 beds for the sick were provided.[80]

Nineteen hundred and sixty-eight patients were admitted to the hospital. Of this number, 719 were nontuberculous, among whom there were 267 influenza patients; of the 1,249 tuberculosis patients, 435 were returned to duty, 428 were discharged on surgeon's certificate of disability, 280 were transferred to other hospitals for treatment, and 106 died.[81]

On May 18, 1919, the Surgeon General recommended that the hospital be abandoned on August 1, 1919.[82] This recommendation was approved; and in accordance with law the Surgeon General was directed to transfer the control of the hospital to the United States Public Health Service. It was soon found, however, that it would be impracticable to close the hospital on August 1, and its abandonment was deferred one month.[83] Two hundred sick remaining in the hospital, and requiring further treatment in military hospital, were distributed, by transfer, to General Hospitals Nos. 8, 19, and 21.

Statistical data, United States Army General Hospital No. 16, New Haven, Conn., from March, 1918, to August, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
March	......	25	52	1	78	22	......	......	......	......	......	......	......	56	......	542	......
April	56	18	117	1	192	16	1	1	......	......	......	......	1	173	......	4,974	......
May	173	22	49	2	246	27	......	12	......	......	......	......	42	165	......	5,035	......
June	165	18	29	38	250	31	2	3	......	......	......	1	21	192	......	5,737	......
July	192	53	10	17	272	52	1	5	......	......	......	......	6	208	......	6,266	......
August	208	15	115	6	344	38	1	......	......	......	......	......	8	297	......	7,211	......
September	297	36	189	5	527	41	4	2	......	......	......	......	15	465	......	10,876	......
October	465	144	60	17	686	94	18	2	1	......	......	2	13	556	......	18,176	......
November	556	25	51	8	640	100	2	14	......	......	......	1	13	510	......	15,348	......
December	510	14	20	6	550	68	8	20	......	......	......	5	11	438	......	14,837	......
1919.																	
January	438	41	76	7	562	77	9	15	......	......	......	6	10	445	......	14,787	......
February	445	15	62	4	526	51	5	10	......	......	......	9	1	450	......	12,183	......
March	450	19	40	3	512	65	10	18	......	......	......	13	3	403	......	12,903	......
April	403	13	109	9	534	42	......	18	......	......	......	10	6	458	......	12,138	......
May	458	16	90	2	566	24	10	16	......	......	......	6	19	491	......	13,402	......
June	491	30	81	11	613	75	12	21	......	1	......	31	11	462	......	14,652	......
July	462	17	117	7	603	51	13	34	......	......	......	8	25	472	......	15,463	......
August	472	26	2	25	525	49	4	210	......	4	......	214	31	13	......	9,637	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant's General Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 16, New Haven, Conn., from March, 1918, to August, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
March	....	27	....	27	January	....	54	....	54
April	....	29	....	29	February	....	54	....	54
May	....	27	....	27	March	....	54	....	54
June	....	26	....	26	April	....	59	....	59
July	....	30	....	30	May	....	57	....	57
August	....	44	....	44	June	....	64	....	64
September	....	40	....	40	July	....	70	....	70
October	....	53	....	53	August	....	53	....	53
November	....	96	....	96					
December	....	63	....	63					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
March	12	3	....	15	57	11	68	25
April	17	3	1	21	109	11	120	27
May	17	2	1	20	118	10	128	26
June	50	3	1	54	215	19	234	21
July	68	8	1	77	243	21	264	26
August	71	6	2	79	200	24	224	47
September	57	6	2	65	276	29	305	54
October	74	7	4	85	308	29	337	56
November	72	6	2	80	306	35	341	71
December	35	10	2	47	349	40	389	53
1919.								
January	49	8	2	59	333	33	366	49
February	46	8	2	56	312	44	356	49
March	37	10	3	50	307	43	350	50
April	31	9	3	43	292	61	353	49
May	35	9	2	46	277	51	328	48
June	31	9	3	43	314	46	360	54
July	33	10	3	46	315	16	331	60
August	8	6	1	15	45	9	54	....

GENERAL HOSPITAL NO. 17, MARKLETON, PA.

The Markleton Sanatorium was situated in the mountainous region of western Pennsylvania, at an altitude of 1,700 feet above sea level. It was adjacent to the railroad station of Markleton, on the main line of the Baltimore & Ohio Railroad, and was six hours, traveling time, west of Washington and three hours east of Pittsburgh. The town of Markleton comprised, mainly, the railroad station, 2 stores, and about 20 small dwellings located along the railroad tracks to a coal mine about three-fourths of a mile distant. The nearest town of any size was Rockwood, about 7 miles away.[84]

The sanatorium was nestled among the mountains, which shut it in on both the east and the west, and was, therefore, not exposed to the cold winds of the winter. Its main building was a five-story, steam-heated, brick structure, with north and south frame wings, each of which was 150 feet long. There were 150 rooms in the building, all in a poor state of repair.

In January, 1918, the sanatorium was offered to the Government, for lease or sale.[84] A representative of the Surgeon General's Office inspected it, and, on February 5, the Surgeon General recommended that it be leased for use as a general hospital in the care and treatment of tuberculosis.[85] The recommendation was approved, and the lease was executed February 25, 1918.[86] Included in the transaction were the sanatorium, with its complete equipment, a laundry and cold-storage plant, a power plant, outbuildings, several farmhouses, and 100 acres of land, all obtained for a rental of $20,000 a year.[84] Under a separate agreement, some cottages were leased for use as quarters for nurses on duty at the hospital. The designation General Hospital No. 17 was given on March 21, 1918;[87] it was opened in the following month, with a bed capacity of 100,[86] and was soon filled.

At the time General Hospital No. 17 was secured, the need for additional beds for tuberculosis patients in general hospitals was pressing, and it was exceedingly difficult to find suitably located places that could be used for the treatment of tuberculosis, and even more difficult to induce owners of properties to lease them: they were decidedly averse to the use of them for hospitals for the tuberculous. These almost unsurmountable difficulties influenced the selection of the comparatively undesirable Markleton Sanatorium. It was not well suited to general hospital purposes; it was small and would not have permitted of an economical expansion by the construction of a sufficient number of buildings to constitute a hospital that would be on a par with the general hospitals then being provided. It was estimated that between 300 and 400 patients could be cared for; however, the subsequent history of the hospital, not unlike those of General Hospitals Nos. 13, 15, and 18, proved the fallacy of this estimate.

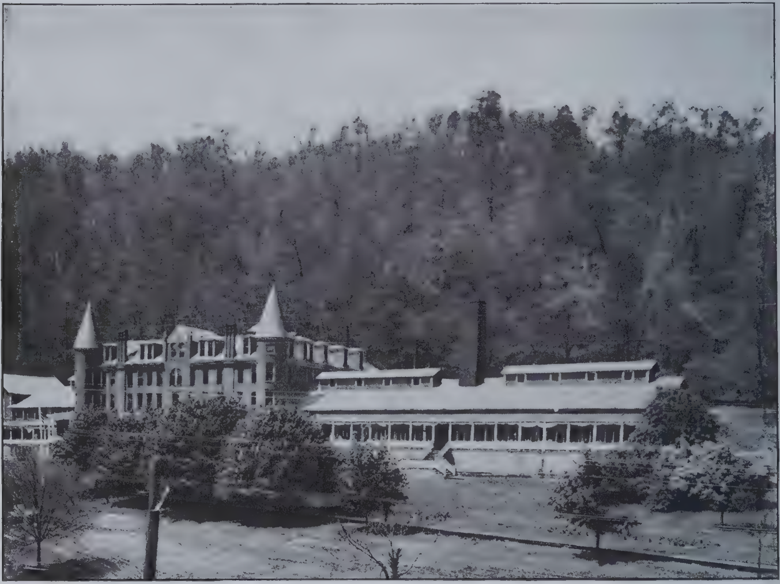

FIG. 179.—General Hospital No. 17, Markleton, Pa.

On March 4, 1918, personnel was sent to the hospital, and its renovation and alteration were begun.[86] Following this, the construction of six tuberculosis wards, in the vicinity of the main building, was authorized and started.[86] This temporary construction was stopped, however, after three buildings had been built. At one time, in the summer of 1918, the abandonment of the hospital was considered; but the entertainment of the idea was dropped:[88] there was too much uncertainty regarding future military necessities. It developed at this time, too, that the lessor had been led to understand that the sanatorium had been leased for not only the period of the war, but one year thereafter, and that it was mainly because of this understanding that he had been induced to permit the discontinuance of the sanatorium, as such, and to enter into a lease with the Government.

Later in the fall available bed space for the tuberculous became critical, and further construction at this hospital was requested, but, because of the armistice, was not consummated. The maximum bed capacity of the hospital was 200.[89] This bed capacity had been attained by August, 1918, coincident with the number of patients under treatment. Both bed capacity and the number of patients remained at that figure until the hospital was closed on March 27, 1919.[90]

Being a hospital for the treatment of tuberculosis, the development of physical reconstruction activities was attempted, but, due to the small size of the hospital, the results, as obtained elsewhere, were not secured.[91]

Statistical data, United States Army General Hospital No. 17, Markleton, Pa., from March, 1918, to April 9, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
March	......	3	......	1	4	2	......	......	......	......	......	......	1	......	1	......	2
April	1	3	72	......	76	3	......	......	......	......	......	......	......	72	1	599	23
May	73	......	33	......	106	1	......	......	......	......	......	......	......	105	......	2, 411	5
June	105	......	41	......	146	......	......	2	......	......	......	......	......	144	......	3, 515	......
July	144	1	17	1	163	8	1	3	......	......	......	11	......	140	......	4, 433	......
August	140	3	16	2	161	10	......	7	......	......	......	......	3	141	......	4, 302	......
September	141	4	31	1	177	5	1	1	......	......	......	3	......	167	......	4, 663	......
October	167	31	78	6	282	18	3	4	......	......	......	1	3	253	......	6, 591	......
November	253	3	49	1	306	58	3	38	......	......	......	......	......	207	......	6, 568	......
December	207	2	35	1	245	24	3	25	......	......	......	2	2	189	......	6, 059	......
1919.																	
January	189	25	48	......	262	25	......	20	......	......	11	1	......	205	......	6, 018	......
February	205	6	9	1	221	11	......	18	1	......	......	9	1	181	......	5, 570	......
March	182	5	3	2	192	6	3	53	......	......	......	125	2	3	......	3, 576	......
April	3	......	......	......	3	2	......	......	......	......	......	1	......	......	......	......	......

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office: and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 7, Markleton, Pa., from March, 1918, to April 9, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1918.				
January	......	......	......	......	October	2	7	......	9
February	......	......	......	......	November	2	7	......	9
March	6	8	......	14	December	1	7	......	8
April	3	2	......	5	1919.				
May	6	2	......	8	January	2	7	......	9
June	2	6	......	8	February	2	6	......	8
July	2	8	......	10	March	2	5	......	7
August	2	9	......	11	April	1	......	......	1
September	2	9	......	11					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
March	3	......	1	4	3	7	10	11
April	6	......	1	7	32	7	39	12
May	6	......	1	7	34	11	45	12
June	9	......	1	10	108	11	119	14
July	14	......	1	15	114	11	125	19
August	12	......	1	13	113	11	124	17
September	13	......	1	14	111	11	122	19
October	11	3	......	14	70	11	81	14
November	10	5	......	15	75	12	87	20
December	13	5	1	19	109	10	119	18
1919.								
January	14	6	1	21	115	13	128	23
February	14	6	1	21	114	22	136	22
March	9	......	1	10	60	21	81	......

GENERAL HOSPITAL NO. 18, WAYNESVILLE, N. C.

General Hospital No. 18 was established in a heterogeneous group of buildings scattered along the north bank of Richland Creek in the outskirts of the town of Waynesville. The various buildings which composed the hospital were an old hotel, its annex, a pavilion and spring house, five small outbuildings, and some separately located cottages. The hotel building was three stories high, of brick construction, and had porches extending along the front and both sides for the first and second floors, with smaller porches at the rear. It had been constructed in 1883 and contained 80 rooms. The annex was a wooden building, 3 stories high, fronted toward the main building 100 yards distant, and had 40 rooms. The pavilion and spring house had formerly been used as a dance hall for the guests of the hotel, and was about 300 yards distant.

The grounds surrounding the hotel comprised 14½ acres, upon which was located the White Sulphur Springs that possessed a local reputation for being beneficial in the cure of rheumatism and skin diseases and was used as an attractive feature by the hotel. Adjacent to the hotel property there was a 167-acre farm, which was obtained and used by the educational and recreational department of the hospital.

The terrain was more or less level and was a part of Richland Valley, which, at this point, was about 3 miles in width, being delimited on either side by mountains of the Blue Ridge Range. Picturesque brooks traversed the valley and afforded ample drainage throughout.

The mean average temperature for the year was 59° F. The thermometer rarely dropped below the freezing point in winter, and seldom rose above 80° in summer. During summer days there were usually cool breezes blowing from the mountains, and it was extremely infrequent that blankets were not required at night. During the winter the nights were frosty, but the days were usually sunshiny and almost balmy; snow rarely lay for more than a very few hours.

On March 14, 1918, the property was investigated by a representative of the Surgeon General; and, based upon his recommendation, it was leased on March 26, at the rate of $10,000 a year.[93]

There was an acute necessity at this time for the provision of hospital space for the care and treatment of cases of tuberculosis in the military service; the necessity for distributing these tuberculosis hospitals throughout the United States added to the difficulties attending the acquisition of suitable space; and the advisability of strongly considering the location of them in places popularly known to be beneficial made the problem even more perplexing. It was difficult to lease readily convertible properties, even though unsuitable, for the treatment of tuberculosis, and it was seldom possible that first class buildings could be secured. It was neither the desire nor the intention of the Surgeon General to greatly enlarge General Hospital No. 18 at the time when it was organized:[94] it was expected that ere long space would become available in the semipermanent tuberculosis hospitals then being especially constructed. So, in order to temporarily increase the bed capacity of General Hospital No. 18, that it might be utilized to the greatest extent in increasing the total number of available beds for the tuberculous, enlisted men on duty at the hospital were quartered in tents.[95] In August, 1918, however, the erection of three additional buildings was recommended,[96] and the construction of these was completed in January, 1919. Some additional expenditures were made in the alteration and repair of certain of the buildings; and the heating arrangements, being insufficient or totally lacking in some of the buildings, were rectified. A reconstruction service was provided and established in the pavilion but it was not developed to any great extent.

Opening with a capacity of 250 in April, 1918,[97] 100 sick were sent there and within a very short period the hospital was completely filled. During the summer the capacity was constantly increased by better interior organization, by the housing of attendants in tents, and by the renovation of additional acquired space until in the late summer a capacity of 600 was reached.[98] During this period the hospital was completely full and remained so until about November of that year when, due to the acquisition of additional general hospital space for tuberculosis elsewhere, the number of sick fell to the less disturbing figure of 350, near which it remained until March, 1919.[98] On May 7, 1919, upon the recommendation of the Surgeon General, this hospital was abandoned and the property returned to the lessor.[99]

Statistical data, United States Army General Hospital No. 18, Waynesville, N. C., from April, 1918, to March 31, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
April	......	5	1	......	6	3	......	......	......	......	......	......	......	1	2	2	......
May	3	7	242	......	252	8	......	......	1	......	......	7	......	236	......	4,297	......
June	236	8	38	......	282	4	3	1	......	......	......	4	......	270	......	1,022	......
July	270	14	79	......	363	12	2	7	......	......	1	2	......	339	......	1,348	......
August	339	26	153	2	520	35	2	10	......	......	......	......	1	472	......	2,468	......
September	472	21	137	......	630	26	1	1	......	......	......	3	1	597	1	1,585	......
October	598	30	78	1	707	27	15	1	......	......	2	17	2	643	......	1,374	......
November	643	9	57	......	709	265	18	3	......	......	77	4	1	341	......	588	......
December	341	8	62	......	411	13	6	2	......	......	......	2	1	387	......	684	......
1919.																	
January	387	13	32	......	432	61	6	8	......	......	......	10	4	343	......	475	......
February	343	4	5	......	352	82	1	41	......	......	......	228	......	......	......	......	......
March	......	......	1	......	1	......	......	......	......	......	......	1	......	......	......	......	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
April	2	10	....	12
May	2	14	....	16
June	2	14	....	16
July	2	23	....	25
August	....	39	....	39
September	....	22	....	22
October	....	26	....	26
November	1	25	....	26
December	1	26	....	27
1919.				
January	1	22	....	23
February	1	20	....	21

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
April	3	2	....	5	28	4	32	10
May	7	2	....	9	79	....	79	32
June	12	3	....	15	126	....	126	36
July	12	5	1	18	182	....	182	36
August	19	5	2	26	184	....	184	40
September	20	5	3	28	181	....	181	39
October	22	4	3	29	183	....	183	58
November	25	4	3	32	243	....	243	58
December	23	6	4	33	275	....	275	42
1919.								
January	19	7	3	29	263	....	263	36
February	3	4	2	9	78	....	78	....
March	1	1	1	3	13	....	13	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office, and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

REFERENCES.

(1) Letter from Maj. Wm. C. Williams, I. G. D., to the Inspector General of the Army, January 25, 1919. Subject: Inspection of United States Army General Hospital No. 9, Lakewood, N. J. On file, Record Room, S. G. O., 333 (General Hosp. No. 9) K.

(2) Report of sanitary inspection of General Hospital No. 9 at Lakewood, N. J., on April 7–8, 1919, by Col. E. R. Schreiner, M. C. On file, Record Room, S. G. O., 721 (Gen. Hosp. No. 9) K.

(3) Report from Capt. Francis S. Paterno, Q. M. C., to Chief of Construction Division, February 25, 1919. Subject: Completion report of construction work at United States Army General Hospital No. 9, Lakewood, N. J. On file, Historical Division S. G. O. (Gen. Hosp. No. 9) K.

(4) Letter from the commanding officer, General Hospital No. 9, Lakewood, N. J., to the Surgeon General, April 8, 1918. Subject: Lease of the Florence-in-the-Pines to be used as nurses' quarters. On file Record Room, S. G. O., 481 (Lakewood, N. J.) F.

(5) Report from Col. Charles F. Mason, M. C., to the Surgeon General, January 16, 1919. Subject: Annual Report of General Hospital No. 9, Lakewood, N. J. for 1918. On file, Historical Division, S. G. O.

(6) Second indorsement from The Adjutant General to the Surgeon General, February 1, 1919. Subject: Designation of general hospital. On file, Mail and Record Division, A. G. O., 322.3 (Misc. Sec.).

(7) Report of sanitary inspection of United States Army General Hospital No. 9, Lakewood, N. J., made by Col. W. F. Truby, M. C., on October 20, 1918. On file, Record Room, S. G.O., 721 (Gen. Hosp. No. 9) K.

(8) Letter from the Surgeon General to commanding officer, Base Hospital, Camp Meade, Md., June 6, 1918. Subject: Treatment of cardiovascular diseases at General Hospital No. 9. On file, Record Room, S. G. O., 702 (Gen. Hosp. No. 9) K.

(9) Report of sanitary inspection of General Hospital No. 10, Parker Hill, Boston, Mass., by Col. Jere B. Clayton, M. C., on May 5, 1919. On file, Record Room, S. G. O., 721–1 (Gen. Hosp. No. 10) K.

(10) Shown in lease. Copy on file, Hospital Division, S. G. O. (General Hospital No. 10).

(11) Sixth indorsement from The Adjutant General to the Surgeon General, March 26, 1918. Subject: Approval of lease of Elks' Hospital, Boston, Mass. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 10) K.

(12) Shown in lease. Copy on file, Record Room, S. G. O., 601 (Boston City Hall, Mass.) S.

(13) Letter from Col. John T. Clarke, M. C., to the Surgeon General, August 29, 1920. Subject: Report of activities of General Hospital No. 10, Boston, Mass. On file, Historical Division, S. G. O. (Gen. Hosp. No. 10).

(14) Letter from Maj. Charles L. Greene, M. C., to the Surgeon General, November 18, 1918. Subject: Report on conditions affecting physical reconstruction at General Hospital No. 10, Parker Hill. On file, Record Room, S. G. O., 356 (Gen. Hosp. No. 10) K.

(15) Letter from the Surgeon General to the Commanding officer, General Hospital No. 10, May 10, 1919. Subject: Reduction in bed capacity. On file, Record Room, S. G. O., 721–1 (Gen. Hosp. No. 10) K.

(16) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(17) Letter from the Surgeon General to the Director of Operations, General Staff, May 28, 1919. Subject: Cancellation of lease. On file, Record Room, S. G. O., 481 (Gen. Hosp. No. 10) K.

(18) Letter from Secretary of War to Hon. Henry Cabot Lodge, United States Senate, June 20, 1919. Subject: General Hospital No. 10, Boston, Mass. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 10) K.

(19) Letter from Lieut. Col. W. L. Reed, I. G. D., to the Inspector General of the Army, June 20, 1918. Subject: Inspection of General Hospital No. 11, Cape May, N. J. On file, Record Room, S. G. O., 333.1 (1) (Gen. Hosp. No. 11) K.

(20) Report of sanitary inspection of General Hospital No. 11, Cape May, N. J., December 3, 1918, by Col. W. F. Truby, M. C. On file, Record Room, S. G. O., 721–1 (Gen. Hosp. No. 11) K.

(21) Letter from the Surgeon General to The Adjutant General, December 18, 1917. Subject: Cape May Hotel, Cape May, N. J. On file, Record Room, S. G. O., 601 (Cape May N. J.) S.

(22) Letter from W. R. Ramsey, attorney, Washington, D. C., to the Surgeon General, November, 30, 1917. Subject: Cape May Hotel. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 11) K.

(23) Letter from Quartermaster, headquarters, Eastern Department, to the Quartermaster General, January 18, 1918. Subject: Lease of Cape May Hotel. On file, Record Room, S. G. O., 601 (Cape May, N. J.) S.

(24) Copy of renewal lease. On file, Record Room, S. G. O., 481–1 (Gen. Hosp. No. 11) K.

(25) Letter from The Adjutant General to the Surgeon General, March 14, 1918. Subject: General hospitals. On file, Record Room, S. G. O., 322.3 (General Hospitals) K.

(26) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(27) First indorsement from General Hospital No. 11, Cape May, N. J., to the Surgeon General, August 5, 1919. Subject: Closing of hospital. On file, Record Room, S. G. O., 602.1 (Gen. Hosp. No. 11) K.

(28) Letter from Chief of Real Estate Service, War Department, to Cape May Hotel Co., Cape May, N. J., July 21, 1919. Subject: Cancellation of lease. On file, Record Room, S. G. O., 481–1 (Gen. Hosp. No. 11) K.

(29) Letter from Surgeon General to The Adjutant General, December 20, 1917. Subject: Kenilworth Inn, Kenilworth, N. C. On file, Record Room, S. G. O., 481 (Asheville, N. C.) F.

(30) Second indorsement from A. G. O. to the Surgeon General, January 2, 1918. Subject: Approval of lease for Kenilworth Inn. On file, Record Room, S. G. O., 481 (Asheville, N.C.) F.

(31) Letter from Col. H. C. Fisher, M. C., to the Surgeon General, undated. Subject: Report on Kenilworth Hotel, Biltmore, N. C. On file, Record Room, S. G. O., 601 (Biltmore, N. C.) S.

(32) Letter from Adjutant General to the Surgeon General, March 14, 1918. Subject: General hospitals. On file, Record Room, S. G. O., 322.3 (Gen. Hosp.) K.

(33) Letter from commanding officer, General Hospital No. 12, to the Surgeon General, May 25, 1918. Subject: Arrival of patients. On file, Record Room, S. G. O., 705 (Gen. Hosp. No. 12) K.

(34) Letter from Maj. A. V. Moschovitz, M. C., to Col. Raymond P. Sullivan, M. C., January 13, 1919. Subject: Report of consultation visit to General Hospital No. 12, Biltmore, N. C. On file, Record Room, S. G. O., 333–1 (Gen. Hosp. No. 12) K.

(35) Shown on weekly bed report, May 15, 1918. On file, Record Room, S. G. O., 632 U.

(36) Shown on weekly bed report, June 26, 1918. On file, Record Room, S. G. O., 632 U.

(37) Shown on weekly bed report, compiled in Surgeon General's Office. On file, Record Room, S. G. O., 632 (U).

(38) First Indorsement from S. G. O. to Quartermaster General, Director, Purchase and Storage, October 17, 1919. Subject: General Hospital No. 12 was discontinued September 1, 1919. On file, Record Room, S. G. O., 210.8–1 (Gen. Hosp. No. 12) K.

(39) Letter from Surgeon General to General Staff, War Department, May 28, 1919. Subject: Cancellation of leases. On file, Record Room, S. G. O., 481 General.

(40) Letter from Adjutant General to the Surgeon General, June 6, 1919. Subject: Abandonment of General Hospital No. 12, Biltmore, N. C. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 12) K.

(41) Letter from the Surgeon General to the commanding officer, General Hospital No. 12, Biltmore, N. C., September 8, 1919. Subject: Transfer of General Hospital No. 12 to Public Health Service. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 12) K.

(42) Letter from the Surgeon General to The Adjutant General, December 20, 1917. Subject: Jackson Sanatorium, Dansville, N. Y. On file, Record Room, S. G. O., 601 (Dansville, N. Y.) F.

(43) Second Indorsement from A. G. O. to Surgeon General, January 2, 1918. Subject: Approval of lease for Jackson Sanatorium, Dansville, N. Y. On file, Record Room, S. G. O., 601 (Dansville, N. Y.) F.

(44) Letter from quartermaster, headquarters, Eastern Department, to Quartermaster General, January 18, 1918. Subject: Execution of lease for Jackson Sanatorium, Dansville, N. Y. On file, Record Room, S. G. O., 601 (Dansville, N. Y.) F.

(45) Letter from Lieut. Col. W. L. Pyles, M. C., to the Surgeon General, November 23, 1917. Subject: Report of inspection, Jackson Sanatorium, Dansville, N. Y. On file, Record Room, S. G. O., 601 (Dansville, N. Y.) S.

(46) Letter from Maj. A. H. Crosbie, M. R. C., commanding officer, General Hospital No. 13, Dansville, N. Y., to the Surgeon General, February 23, 1918. Subject: Report of progress. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 13), K.

(47) Letter from the Surgeon General to the Chief of Staff, May 9, 1918. Subject: Cancellation of the lease of General Hospital No. 13, Dansville, N. Y. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 13) K.

(48) First Indorsement from A. G. O. to the Surgeon General, May 13, 1918. Subject: Approval of request to cancel lease of Jackson Sanatorium, Dansville, N. Y. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 14) K.

(49) Letter from Surgeon General to the Chief of Staff, June 29, 1918. Subject: New lease for General Hospital No. 13, Dansville, N. Y. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 13) K.

(50) Copy of lease. On file, Hospital Division, S. G. O. (Dansville, N. Y.).

(51) Letter from Acting Surgeon General to Adjutant General, June 12, 1918. Subject: Transfer of personnel and equipment from Dansville, N. Y. to Richmond, Va. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 13) K.

(52) Letter from Acting Surgeon General to commanding officer, General Hospital No. 13, Dansville, N. Y., September 17, 1918. Subject: Organization of General Hospital No. 13. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 13 K.

(53) Letter from commanding officer, General Hospital No. 13, to Surgeon General, November 24, 1918. Subject: Report of transfer of patients. On file, Record Room, S. G. O., 705 (Gen. Hosp. No. 13) K.

(54) Letter from the Surgeon General to Construction Division, War Department, March 12, 1919. Subject: Cancellation of lease and abandonment of General Hospital No. 13. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 13) K.

(55) Letter from commanding officer, General Hospital No. 13, Dansville, N. Y. to Surgeon General, April 28, 1919. Subject: Abandonment of General Hospital No. 13. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 13) K.

(56) "Outline Description of Military Posts and Reservations in the United States and Alaska and of National Cemeteries." Washington, Government Printing Office, 1904.

(57) Letter from the Surgeon General to The Adjutant General, May 18, 1917. Subject: Use of permanent barracks of certain posts for hospital purposes. On file, Mail and Record Division, A. G. O., 2600303 (Old Files Section).

(58) Letter from The Adjutant General to the commanding general, Southeastern Department, June 23, 1917. Subject: Use of permanent barracks at certain posts for general or base hospital accommodations. On file, Record Room, S. G. O., 176795 (Old Files).

(59) Night letter from the Surgeon General to the department surgeon, Southeastern Department, June 25, 1917. Subject: Request for plans of a base hospital at certain posts. On file, Record Room, S. G. O., 176795 (Old Files).

(60) Letters from the Surgeon General to the Quartermaster General, various dates. Subject: Temporary hospital buildings at Fort Oglethorpe, Ga. On file, Record Room, S. G. O., 176796 (Old Files).

(61) Letters from the Surgeon General to the Construction Division, War Department, various dates. Subject: Alteraton and construction of buildings. On file, Hospital Division, S. G. O., (Gen. Hosp. No. 14, General Hospital Requests).

(62) Telegram from Kirkpatrick, Fort Oglethorpe, Ga., to the Surgeon General, November 24, 1917. Subject: Hospital administration. On file, Record Room, S. G. O., 323.7 (Post Hospital, Fort Oglethorpe) N.

(63) Letter from The Adjutant General to the Surgeon General, March 14, 1918. Subject: General hospitals. On file, Record Room, S. G. O., 323.3 (General Hospitals) K.

(64) Letter from the Surgeon General to the Director of Operations, General Staff, May 22, 1919. Subject: Closing of General Hospital No. 14 as such. On file, Record Room, S. G. O., 320.2 (Gen. Hosp. No. 14) K.

(65) Letter from the Surgeon General to The Adjutant General, January 25, 1918. Subject: Lease of Beach Hotel, Corpus Christi, Tex. On file, Record Room, S. G. O., 601 (Corpus Christi) F.

(66) Letter from Surgeon General to commanding officer, hospital, Corpus Christi, Tex., March 2, 1918. Subject: Instruction for establishment of hospital. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 15) K.

(67) First Indorsement from War Department, A. G. O., to the Surgeon General, March 21, 1918. Subject: Designation of hospitals. On file, Record Room, S. G. O., 323.7 (General Hospitals) K.

(68) First Indorsement from commanding officer, General Hospital No. 15, to the Surgeon General, December 27, 1918. Subject: Statistical information. On file, Record Room, S. G. O., 730 (Gen. Hosp. No. 15) K.

(69) Letter from the Surgeon General to chief surgeon, Port of Embarkation, Hoboken, N. J., July 26, 1918. Subject: Use of General Hospital No. 15 for convalescent patients. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 15) K.

(70) Shown on weekly report compiled in the Surgeon General's Office. On file, Record Room, S. G. O., 632 (U).

(71) Letter from The Adjutant General to the Surgeon General, February 26, 1919. Subject: Abandonment of General Hospital No. 15, Corpus Christi, Tex. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 15) K.

(72) Letter from commanding officer, General Hospital No. 15 to the Surgeon General, May 31, 1919. Subject: Transfer to Public Health Service. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 15) K.

(73) Report on property tendered for hospital purposes. New Haven Hospital inspected by Col. G. E. Bushnell, M. C., January 16, 1918. On file, Record Room, S. G. O., 601 (New Haven Hospital, West Haven, Conn.) S.

(74) Letter from the Surgeon General to the Chief of Staff, February 8, 1918. Subject: Lease of New Haven Hospital, New Haven, Conn., for tuberculosis. On file, Record Room, S. G. O., 601 (New Haven, Conn.) F.

(75) Memorandum for Acting Chief of Staff for Assistant Secretary of War, February 11, 1918. Subject: Lease of New Haven Hospital for tuberculosis hospital. Approved February 12, 1918. On file, Record Room, S. G. O., 601 (New Haven, Conn.) F. *Also:* Telegram from George B. Lummer, New Haven, Conn., to the Surgeon General, February 26, 1918: "Lease signed for hospital today." On file, Record Room, S. G. O., 601 (New Haven, Conn.) F.

(76) First Indorsement from War Department, A. G. O. to the Surgeon General, March 21, 1918. Subject: Designation of hospitals. On file, Record Room, S. G. O., 323.7 (General Hospitals) K.

(77) Shown on weekly bed reports compiled in the Surgeon General's Office. On file, Record Room, S. G. O., 632 (U).

(78) Letter from the Surgeon General to The Adjutant General, April 3, 1918. Subject: Authority to construct additional wards and buildings at the United States Army General Hospital No. 16, New Haven, Conn. On file, Record Room, S. G. O., 652 (Gen. Hosp. No. 16) K.

(79) Third Indorsement from War Department, S. G. O. to Construction Division, War Department, July 23, 1918. Subject: Additional construction, General Hospital No. 16. On file, Record Room, S. G. O., 652 (Gen. Hosp. No. 16.) K

(80) Letter from Surgeon General, United States Army, to Surgeon General, Public Health Service, August 15, 1918. Subject: Transfer of General Hospital No. 16, New Haven, Conn. On file, Record Room, S. G. O., 323.72–3 (Gen. Hosp. No. 16) K.

(81) Compiled from sick and wounded reports, General Hospital No. 16. Now on file, World War Div., A. G. O.

(82) Letter from the Surgeon General to the Chief of Staff, May 28, 1919. Subject: Cancellation of leases. On file, Record Room, S. G. O., 481 General.

(83) Letter from Surgeon General to The Adjutant General, June 18, 1919. Subject: Abandonment of General Hospital No. 16, New Haven, Conn. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 16) K.

(84) Letter from M. B. Barnett, Markleton, Pa., to the Surgeon General, United States Army, January 29, 1918. Subject: Sale or lease of Markleton Sanatorium. On file, Record Room, S. G. O., 601 (Markleton, Pa.) F.

(85) Letter from the Surgeon General to The Adjutant General, February 5, 1918. Subject: Lease of Markleton Sanatorium, Markleton, Pa. On file, Record Room, S. G. O., 601 (Markleton) F.

(86) Letter from Col. W. L. Reed, I. G. D., to the Inspector General of the Army, June 13, 1918. Subject: Inspection of General Hospital No. 17. On file, Record Room, S. G. O., 333 (Gen. Hosp. No. 17) K.

(87) First Indorsement from War Department, A. G. O., to the Surgeon General, March 21, 1918. Subject: Designation of hospital at Markleton, Pa. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 17) K.

(88) Letter from Brig. Gen. Robert E. Noble, M. C., to Senator Boise Penrose, United States Senate, September 18, 1918. Subject: Markleton Sanatorium, General Hospital. On file, Record Room, S. G. O., 601 (Markleton, Pa.) F.

(89) Shown on weekly bed reports compiled in the Surgeon General's Office, On file, Record Room, S. G. O., 632 (U).

(90) Letter from commanding officer, General Hospital No. 17, Markleton, Pa., to Col. Roger Brooke, M. C., March 28, 1919. Subject: Transfer of patients. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 17) K.

(91) Reports from Chief of Educational Service, General Hospital No. 17, to the Surgeon General, various dates. Subject: Report of educational work. On file, Record Room, S. G. O., 456 (Gen. Hosp. No. 17) K.

(92) Report on special sanitary inspection of General Hospital No. 18, Waynesville, N. C. Made on August 8, 1918, by Lieut. Col. F. W. Weed, M. C. On file, Record Room, S. G. O., 721 (Gen. Hosp. No. 18) K.

(93) Telegram from Gorgas to J. B. Sloan, Waynesville, N. C., March 26, 1918. Subject: Secretary of War has approved leasing of hotel at rate of $10,000 per year. On file, Record Room, S. G. O., 481 (Waynesville, N. C.) F. *And:* Telegram from Dunn to Surgeon General. March 28, 1918. Subject: Just received word that lease was signed in Charleston, yesterday. On file, Record Room, S. G. O., 481 (Gen. Hosp. No. 18) K.

(94) Letter from the Surgeon General to commanding officer, General Hospital No. 18, Waynesville, N. C. June 27, 1918. Subject: Administration. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 18) K.

(95) Letter from quartermaster to commanding officer, General Hospital No. 18, July 31, 1918. Subject: Buildings for use at this hospital. On file, Record Room, S. G. O., 652 (Gen. Hosp. No. 18) K.

(96) Second indorsement from War Department, S. G. O. to Construction Division, War Department, August 13, 1918. Subject: Additional construction General Hospital No. 18, Waynesville, N. C. On file, Record Room, S. G. O., 652 (Gen. Hosp. No. 18) K.

(97) Telegram from Davis, commanding, to the Surgeon General, April 24, 1918. Subject: Hospital ready to receive patients. On file, Record Room, S. G. O., 705 (Gen. Hosp. No. 18) K.

(98) Shown on weekly bed report compiled in the Surgeon General's Office. On file, Record Room, S. G. O., 632 (U).

(99) Letter from commanding officer, General Hospital No. 18, to the Surgeon General, May 7, 1919. Subject: Official closing of United States Army General Hospital No. 18, Waynesville, N. C. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 18) K.

CHAPTER XXVII.

GENERAL HOSPITALS, NOS. 19, 20, 22, 23, 24, 25, 26, 27, 28, AND 29.

GENERAL HOSPITAL NO. 19, OTEEN (AZALEA), N. C.

Early in the year 1918 all hospital space for Army tuberculous patients was, with the exception of the Fort Bayard General Hospital, in relatively unsuitable leased properties. These converted hospitals had, at that time, very little remaining available space; and the accumulation of the tuberculous in the base hospitals of the camps was not only highly undesirable but demanded relief; consequently additional space was vitally required. At this time the lease and purchase of certain tracts of land in the mountainous regions of North Carolina, to be used for hospital purposes, was begun under the authority of the Secretary of War.[1] When completed, about 400 acres had been acquired.[2] The land so secured was situated 1 mile from Azalea, 5 miles from Biltmore, and 7 miles from Asheville. Following its acquisition, plans were developed for the construction of a large tuberculosis hospital to consist of over 60 frame buildings having a capacity of 1,000 beds.[3] On March 2, 1918, the Secretary of War authorized the construction of the hospital, and work upon it was instituted.[1] In the fall of 1918, when the original project was being rapidly completed, and when occupation of the buildings had begun, the construction of an additional group of 200 buildings, with a capacity of 500 beds, was requested and authorized.[4]

In the first group the wards were of the infirmary and the ambulatory types,[3] and were grouped about a culinary and administrative center. The 500-bed group consisted of ambulatory wards[5] for the most part, which, with but few exceptions, were located on a hill some distance from the main kitchen and mess hall. Between these two main groups a third group of 12 buildings was located.

At first all ambulant patients in the hillside group of wards were required to walk to the mess halls, three-fourths mile distant.[6] This was done with a view to hardening and more rapidly rehabilitating them. The scheme was found to be impracticable, and later a mess hall and kitchen were constructed in close proximity to this detached class of sick.

As at General Hospital No. 8, the wards were of three types[5]—infirmary, ambulatory, and semi-infirmary, the latter type being a compromise between the first two and was determined upon as the construction and use of the wards developed. Much study was given to the subject and every effort was made to provide the facilities for the satisfactory treatment, after care, and instruction of the tuberculous; and all of the usual services of a complete general hospital were provided. In all, 100 buildings, with heating, lighting, plumbing, and sewer connections, were erected, the majority not connected by umbrella walks, and all but one—the heating plant—were of frame construction. In area covered, if not in capacity, this was the largest temporary general hospital constructed during the war. Some conception of its magnitude may be gained from the fact that 40 miles of the following utilities were installed: Roads, sewers, water and steam mains, and electric transmission and distribution lines.

The designed capacity of the hospital was 1,500 beds;[7] as actually operated, however, this capacity was not fully realized, due mainly to the fact that the ambulant and infirmary sick were not in the exact ratio anticipated in the construction. It had been estimated that 33 per cent of the tuberculous would be infirmary cases and 55 per cent ambulatory; but it developed that they were about equally divided; and late in the war experience, even the reverse of the original ratio obtained. The total cost was $2,750,000.[8]

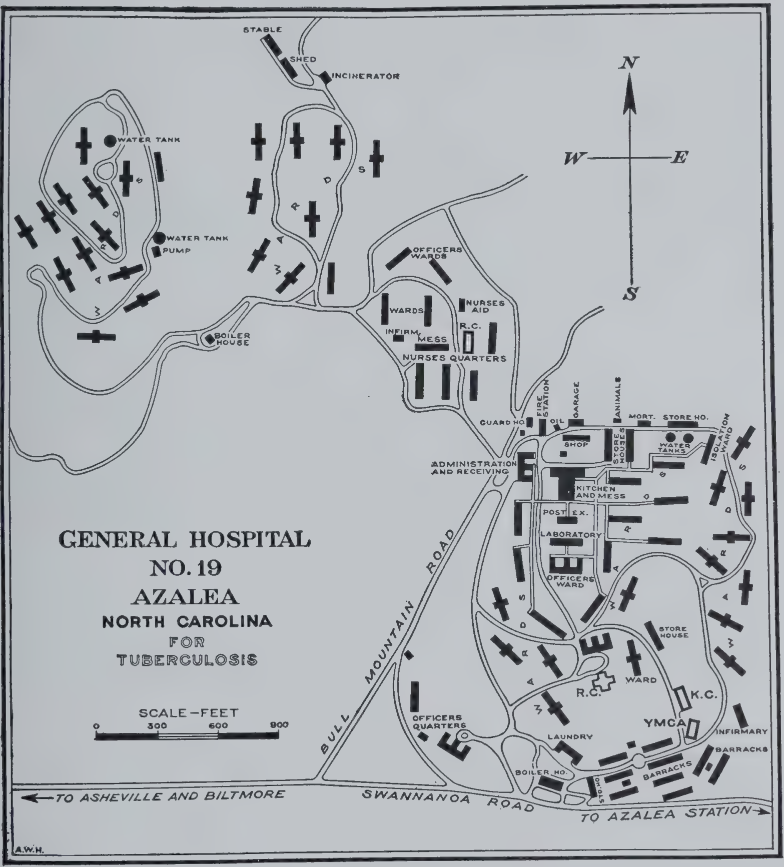

FIG. 180.

On May 25, 1918, it was designated General Hospital No. 19.[9] It was opened to the sick in September, 1918,[10] and the number under treatment rapidly rose, reaching 1,000 on January 1, 1919.[10] The peak, 1,175, was reached in the following May.[10] The number varied between 948 and 1,192 throughout the year 1919.[10]

Statistical data, United States Army General Hospital No. 19, Oteen (Azalea), N. C., from September, 1918, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
September	......	57	456	......	513	26	.....	.....	.....	.....	.....	1	.....	486	......	5,367	......
October	486	63	315	......	864	81	5	1	1	.....	.....	.....	.....	776	......	4,763	......
November	776	26	226	1	1,029	95	6	1	.....	.....	.....	.....	.....	927	......	5,260	......
December	927	77	189	1	1,194	178	8	7	9	.....	.....	2	1	989	......	5,327	......
1919.																	
January	989	108	374	5	1,476	285	10	27	5	.....	.....	5	.....	1,144	......	9,858	......
February	1,144	71	281	3	1,499	267	19	39	3	.....	1	.....	.....	1,170	......	7,599	......
March	1,170	48	167	5	1,390	226	21	81	6	.....	.....	6	12	1,038	......	8,609	......
April	1,038	58	392	3	1,491	132	25	42	1	.....	.....	84	15	1,192	......	8,467	......
May	1,192	60	229	3	1,484	220	20	155	.....	.....	.....	20	18	1,051	......	8,607	......
June	1,051	36	278	2	1,367	126	17	144	3	.....	.....	1	10	1,066	......	8,701	......
July	1,066	28	98	11	1,203	79	27	104	2	.....	.....	29	14	948	......	5,351	......
August	948	24	258	20	1,250	54	23	160	1	.....	.....	9	35	968	......	9,111	......
September	968	19	227	9	1,223	24	13	75	2	.....	.....	5	15	1,089	......	4,254	......
October	1,089	26	93	5	1,213	22	18	64	3	.....	.....	21	28	1,057	......	3,977	......
November	1,057	27	185	16	1,285	16	32	31	4	1	.....	25	23	1,153	......	5,688	......
December	1,153	31	41	18	1,243	30	22	252	6	1	.....	2	20	910	......	3,114	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
September	4	4	....	8
October	5	8	....	13
November	7	17	....	24
December	7	38	1	46
1919.				
January	7	37	1	45
February	4	54	....	58
March	200	61	....	261
April	181	61	....	242
May	185	64	....	249
June	231	88	....	319
July	173	125	....	298
August	172	90	....	262
September	282	30	....	312
October	215	130	....	345
November	250	122	1	373
December	150	90	....	240

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Aides and workers.	Other civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.			
1918.										
September	29	6	1	36	263	33	296	52	....	....
October	38	7	3	48	265	33	298	54	....	....
November	37	7	5	49	390	41	431	62	....	....
December	41	11	6	58	592	109	701	61	....	....
1919.										
January	50	16	5	71	588	151	739	78	....	....
February	53	15	7	75	586	183	769	108	....	....
March	48	16	11	75	593	176	769	108	....	....
April	47	17	12	76	547	160	707	100	....	....
May	45	15	11	71	522	108	630	98	....	....
June	52	13	10	75	499	22	521	107	....	1
July	51	14	14	79	498	12	510	118	....	1
August	43	14	9	66	400	5	405	116	....	1
September	45	10	9	64	398	8	406	128	....	....
October	35	5	6	46	324	6	330	151	....	....
November	40	6	6	52	315	8	323	142	....	....
December	42	6	5	53	464	8	472	129	....	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 20, WHIPPLE BARRACKS, ARIZ.

Whipple Barracks had been located 1 mile northeast of Prescott, Ariz., in a bowl-shaped basin among the mountains, at an altitude of about 5,000 feet.[11] Between the years 1903–1906 permanent brick and concrete buildings had been erected to provide facilities for quartering a battalion of troops. In 1911 it was practically abandoned as a result of the transfer of troops to the Mexican border.

In February 6, 1918, the Surgeon General recommended the transfer of the post to the Medical Department for use as a general hospital for the treatment of tuberculosis.[12] On February 15 the transfer was authorized,[13] and on May 25 it was designated "General Hospital No. 20" by the War Department.[14] The renovation of the post was begun at once, but for some time only small expenditures were made for this purpose and for slight alterations. It was apparent, however, that much more space would be required for the treatment of tuberculosis than would be afforded in the altered existing buildings. These were studied, and a plan was evolved whereby certain additional buildings in new construction were to be added, which, with the existing buildings, would give a capacity of approximately 1,300 sick. Based upon this plan, a request was made in July for the construction of a total of about 30 buildings, most of which were to be wards of three types—infirmary, semi-infirmary, and ambulatory;[15] all buildings to be of tile and stucco, to have modern improvements, and to be so grouped about the existing buildings as to serve the greatest purpose. The general scheme and plan were altered from time to time, but eventually the project was greatly reduced, the following buildings being actually constructed: 5 two-story wards, 2 one-story wards, and 1 nurses' building, which brought the total capacity of the hospital up to 500 beds. This work was not completed until July, 1919. In the meantime

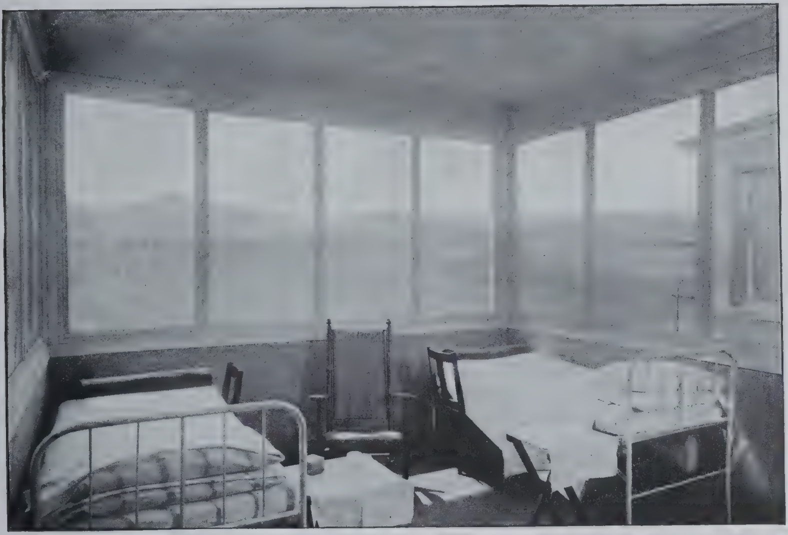

FIG. 181.—Sun porch, General Hospital No. 20, Whipple Barracks, Ariz.

there was much to disturb the progress of the project: the ever present difficulty of designing and placing new buildings so as to function well with those existing, and the advent of the armistice, which changed the aspect of the problem but did not serve to obviate entirely the necessity for the construction. A portion of the construction was obviated, however, and the capacity was never increased beyond 500 beds. The change from the larger project to the smaller one was effected in January, 1919, when it could be safely predicted that facilities as originally contemplated would not be required.

Reconstruction activities were provided and all the services of a general hospital were started, some completed, others finished on a reduced scale.

The hospital opened for sick in June, 1918,[16] with a capacity of 150 beds, most of which were at once filled. While the constructed capacity was 500 beds, this actually was never reached in operation. By October the actual capacity had reached 400 beds, and by that time the patients had increased to an equal number. From this time on until the end of 1919 the hospital was practically full, patients seldom falling as low as 300 in number and oftentimes coinciding with the capacity.[17]

Statistical data, United States Army General Hospital No. 20, Whipple Barracks, Ariz., from June, 1918, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.				
			By transfer.	Otherwise.										Hospital.	Quarters.	Hospital.	Quarters.
1918.																	
June	......	4	72	......	76	4	.....	.....	.....	.....	.....	.....	.....	72	......	168	......
July	72	7	105	......	184	5	.....	.....	.....	.....	.....	.....	.....	178	1	4,346	20
August	179	11	33	1	224	11	1	.....	.....	.....	.....	.....	.....	211	1	4,765	56
September	212	1	101	......	314	4	2	1	.....	.....	.....	2	.....	305	......	7,464	......
October	305	89	16	1	411	49	12	2	.....	.....	.....	.....	.....	345	3	10,507	77
November	348	67	29	7	451	83	14	3	.....	.....	.....	2	.....	349	......	11,666	......
December	349	57	26	2	434	57	4	18	2	.....	1	3	3	346	......	10,285	......
1919.																	
January	346	26	29	1	402	28	2	44	.....	.....	.....	9	9	310	......	9,777	......
February	310	29	17	......	356	32	.....	78	3	.....	.....	1	.....	241	1	7,647	9
March	242	15	55	......	312	14	4	44	.....	.....	.....	.....	.....	250	......	7,004	4
April	250	21	73	......	344	19	1	26	1	.....	.....	4	1	292	......	6,566	......
May	292	19	33	3	347	23	1	37	.....	.....	.....	7	20	259	......	8,317	......
June	259	21	65	22	367	16	1	44	.....	.....	.....	2	39	265	......	7,583	......
July	265	17	113	34	429	11	1	43	.....	.....	1	1	50	322	......	8,259	......
August	322	10	76	53	461	12	5	55	.....	.....	.....	2	47	340	......	2,187	......
September	340	10	40	30	420	6	3	47	.....	.....	.....	15	25	323	1	1,926	11
October	324	13	48	17	402	10	2	33	.....	.....	.....	9	19	329	......	1,383	......
November	329	23	83	20	455	12	2	19	.....	.....	.....	6	27	389	......	2,722	......
December	389	19	18	17	443	6	2	68	.....	.....	.....	2	63	301	1	4,951	10

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
September	1	3	....	4	April	1	5	....	6
October	1	3	....	4	May	1	5	....	6
November	1	5	....	6	June	5	42	....	47
December	1	5	....	6	July	5	42	....	47
					August	....	....	....	....
1919.					September	80	171	12	263
January	1	5	....	6	October	80	171	12	263
February	1	5	....	6	November	80	171	12	263
March	1	5	....	6	December	80	170	11	261

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 20, Whipple Barracks, Ariz., from June, 1918, to December, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
June	3	3	1	7	59	9	68	....
July	8	3	2	13	65	31	96	11
August	12	3	2	17	115	31	146	11
September	13	4	5	22	117	31	148	10
October	16	5	5	26	164	29	193	70
November	17	6	5	28	165	29	194	69
December	20	4	5	29	195	46	241	22
1919.								
January	17	4	5	26	172	74	246	18
February	19	3	8	30	172	75	247	22
March	19	4	10	33	159	43	202	22
April	21	4	14	39	147	41	188	31
May	24	5	14	43	166	39	205	41
June	26	4	14	44	214	13	227	42
July	26	5	15	46	187	5	192	41
August	23	5	11	39	164	6	170	44
September	14	5	7	26	158	25	183	43
October	11	4	5	20	158	31	189	44
November	14	4	5	23	155	87	242	44
December	16	3	6	25	149	83	232	42

GENERAL HOSPITAL NO. 22, PHILADELPHIA, PA.*

On January 19, 1919, the mayor and the director of health and charities of Philadelphia formally offered a portion of the Philadelphia General Hospital to the War Department for hospital purposes at a nominal rental of $1 per year. A board of officers representing the Chief of Staff, the Surgeon General, and the Chief of the Construction Division inspected the various buildings offered, and reported that the property could be adapted to hospital use within a very short period at a cost of $65,000 and that it would provide a capacity of 500 beds.[18] The leasing of this property had already been approved on January 6 by the Secretary of War, who desired that it be developed with the least practicable delay.[18] The portion offered the Government was the 80-year old group of buildings which had been used in part for the insane. The group for purposes of description may be divided into five sections: a 3-story brick building situated west of the west wing of the administration building; a 4-story brick building comprising the west wing of the administration building of the hospital; a 4-story brick building comprising the east wing of the administration building of the hospital, 600 feet distant over outside walks from the nearest wards; and second floor of the east section of the nurses' home. Section 1 was converted into quarters for the enlisted personnel and into storage space for medical and quartermaster supplies; section 2 was renovated and converted into wards; section 3 was converted into wards and mess and administrative offices; section 4 was made into a kitchen; and section 5, with the use of some paint and the installation of some toilet facilities, became a very good nurses' home.

The construction work cost slightly in excess of $65,000 and consisted, in conjunction with the work above referred to, of painting, calcimining, the refinishing of old floors which had been laid many years previously; the installation of diet kitchens, utility rooms, and dish washers; the replacement of many steam rinsers and some radiation, plastering, and wiring; the removal of iron bars and grating from many of the outside windows, and many other general items of repair and refurnishing. No reconstruction activities were installed in this hospital as it was intended that general medical and surgical cases and venereal diseases would be treated there.

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*After General Hospital No. 22 (Richmond College) was converted into Debarkation Hospital No. 52, the former number was used for this hospital. (See p. 825.)

The development of General Hospital No. 22 was unique in at least one respect, and it presented a good example of what could be done in rapid alteration and organization. The Medical Department in January, 1919, did not feel the need of developing general hospital facilities at Philadelphia, and did not originate the request for the use of this institution. However, in a resolution adopted in common council in Philadelphia, January 16, which had been approved by the mayor, it was stated that the War Department desired to use certain buildings and portions of buildings of the Philadelphia General Hospital.[19] At about the same time the Director of Operations, General Staff, stated in a memorandum for the Assistant Secretary of War that the development of a hospital in Philadelphia would be particularly appropriate, judging from the strong desire of its citizens for the return of the local wounded to the vicinity of their homes.[18]

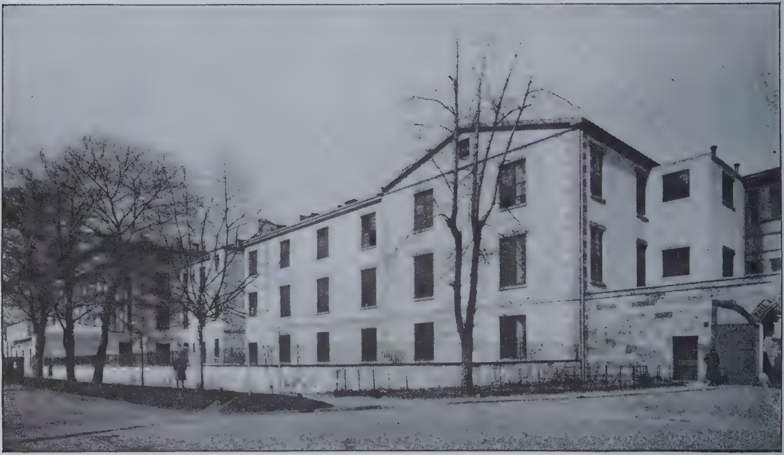

FIG. 182.—General Hospital No. 22, Philadelphia, Pa.

The actual development of the hospital took place in a most expeditious fashion, as had the execution of the lease and the authorization of funds. The project was approved by the Secretary of War on January 6, 1919; the $65,000 was allotted on January 9, and the same day a contractor was recommended for the work. On the following day the contractor received orders to proceed with the work and on January 14 actual funds were transferred to the local contracting quartermaster; complete plans for alteration were prepared; and the work was practically completed by February 18, when additional funds were called for and were made available on the following day. By February 28 the alteration work had been entirely finished and the organization of the hospital was completed and it was ready for sick five days later. This was indeed very rapid work when contrasted with many similar projects carried out early in the war period when it was not uncommon to triple or quadruple this length of time in executing the lease, developing plans, securing funds, and completing the construction. The hospital opened on March 5, 1919, with a capacity of 450 beds [20] and within a fortnight 400 sick were being cared for.

In the meantime, however, the problem of how to acquire hospital space had changed to one of how to dispose of hospital space, and 10 general hospitals had been closed. On May 28, 1919, the Surgeon General recommended the abandonment of this hospital.[21] The recommendation was approved June 5, the abandonment to be accomplised on or before June 30.[22] All sick were transferred prior to June 30, on which date the hospital ceased as a military institution and the control of it was returned to the city of Philadelphia.[23]

Statistical data, United States Army General Hospital No. 22, Philadelphia, Pa., from February, 1919, to June, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged; expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1919.																	
February		17			17	14									3		30
March	3	42	487		532	115	1					12		404		8,225	
April	404	32	177		613	191	1	6				17		398		11,083	
May	398	21	152	4	575	165	2	20				12	2	374		11,400	
June	374	14	103	3	494	155		23				313	3			6,672	

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1919.					1919.				
February		1		1	May		15		15
March		6		6	June	11	3		14
April		10		10					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1919.								
February	19		1	20	218	14	232	25
March	27		2	29	235	26	261	46
April	27		2	29	227	24	251	43
May	27		1	28	222	16	238	45
June	8		1	9	45	3	48	24

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 23, HOT SPRINGS, N. C.

The Mountain Lake Park Hotel was located in the town of Hot Springs, N. C., 38 miles distant by railroad from Asheville. The site of the hotel was on a plateau, popularly called the "dimple" because of the fact that it was completely surrounded by the close-in Southern Appalachian Mountains. The property included a tract 100 acres in extent, quite flat, and triangular in outline. On it were well arranged shade trees that bordered the roads and walks, and approximately one-fifth of it was cultivatible.

The soil was sandy and the subsoil was a mixture of rock and clay. After rains the surface dried rapidly and there was a constant freedom from mud and dust. The site was well protected from high winds, being surrounded as it was by the mountains.

The French Broad River formed the northeastern boundary of the area, and the tracks of the Southern Railway the southern boundary, as well as the dividing line between the property and the town of Hot Springs, a village of 400 inhabitants.

The climate was mild, usually dry, and very invigorating. The mean summer temperature was found to be 80° F. and the maximum winter temperature 30° F.

The hotel, a four-story frame building, erected in 1880, had been used by the Department of Labor as an internment camp for alien enemies. This department had constructed quite a number of additional temporary buildings in the vicinity of the hotel, the group being divided into two areas: Camp A, consisting of the hotel and some additional barrack buildings, with a capacity of 900, and occupied by ships' officers and the staff of the Department of Labor; and camp B, consisting of 11 barrack buildings, with a capacity of 1,100, occupied by seamen.[24]

The Secretary of Labor inquired of the Secretary of War as to whether this property could not be profitably used by the War Department for hospital purposes, as it was the intention of the Department of Labor to discontinue the use of the camp.[25] At the inception of the negotiations for the transfer it was not represented that the place was undesirable for the purposes of the Department of Labor, but the reason given for its abandonment by that department was that the interned Germans were offensive to the civilians of the community and it was feared that some untoward incident might occur that would prove embarrassing to the United States. The property was inspected by representatives of the Surgeon General's Office, and the gist of their reports was to the effect that, while it was not ideal in location, its water supply was not entirely satisfactory as to quality and quantity, and the temporary buildings and the hotel itself were not in good condition, nevertheless the property should be acquired for hospital purposes. They reported further that for a comparatively small amount of money the whole could be economically converted into a comparatively good military hospital.[26]

In the spring of 1918 there was every indication that the continuation of war would be prolonged and there was urgent need of providing a large number of general hospitals. Moreover, it was reported that there would be adequate space for 1,200 beds at Hot Springs; so on May 22, the Surgeon General recommended that the property be obtained; and, as it was already under lease by the Government, that the War Department take over the existing lease, which carried a rental of $18,000 per year.[27] The lease was then transferred from the Department of Labor to the War Department as of July 1, 1918.[28]

It was the intention of the War Department to transfer the interned alien enemies to Fort Oglethorpe, but in July, when this transfer was about to take place, an epidemic of typhoid fever appeared among them, the first cases occurring in camp B on July 20; 150 cases developed, with 17 deaths. All originated in camp B, where, upon investigation, it was found that the cause was due to the use of water from a proscribed well into which seepage had occurred from the French Broad River. There were no cases in camp A.[24]

While part of the Medical Department personnel had arrived they had not yet begun to function when this epidemic occurred, which, of course, caused delay in removing the prisoners. Meanwhile, the Surgeon General had requested the development of the place for hospital purposes, and the various plans in connection with this work were under way. Although it was not very satisfactory, as has already been indicated, and notwithstanding subsequent reports of inspections, made by representatives of the Surgeon General's Office during the summer and fall, which did not approve the selection, in view of the increasing need for general hospital beds, the work of development was not given up. The expenditure of the funds, which had been requested in June, was not authorized until August (during which month the hospital was designated General Hospital No. 23); and, as a result of further unavoidable delays, actual construction work was not begun until October 1. Prior to October 1, about $100,000 had been allotted for the development of this hospital; subsequently an additional sum was estimated as necessary for the correction of the water supply. This was disconcerting as it had been understood in the Surgeon General's Office that only a small expenditure would be required to provide excellent water from an unquestionable source not far distant. The development of this source of water was not approved.[29]

Alteration work was under way at the time of the armistice, and although most of it was accomplished it had not been advanced sufficiently to make the buildings completely available for use. The commanding officer, however, reported an available capacity for 300 ambulatory and 125 bed cases,[30] but this space was never fully utilized. The greatest number of sick was 122 in the month of February, 1919.[31]

In January, 1919, the Surgeon General felt that the general hospital situation was secure and that an emergency which would make the use of this hospital necessary was unlikely to occur in the future. It was therefore recommended on January 31 that it be abandoned.[32] This was approved on February 10;[33] and on March 15 the hospital was abandoned,[34] the few remaining sick having been transferred to General Hospital No. 12, Biltmore, N. C.

Statistical data, United States Army General Hospital No. 23, Hot Springs, N. C., from August, 1918, to March 15, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
August			26		26									26		52	
September	26	2			28	2						26				52	26
October		37		1	38	33	1							4		190	70
November	4	11			15	11								4		105	8
December	4	36	46		86	27						4		55		457	62
1919.																	
January	55	22	27	16	120	18		1				1	21	79		2,018	
February	79	18		25	122	69		4				25	17	6	1	820	7
March	7	2			9	6						2	1			42	15

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918				
October	2			2
November				
December				

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
August	3	3	1	7	40	21	61	
September	4	4	1	9	40	21	61	
October	15	5	1	21	111	20	131	
November	15	4	2	21	111	20	131	
December	10	4	2	16	303	27	330	26
1919.								
January	16	4	2	22	261	21	282	27
February	2	2	2	6	126	18	144	25

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 24, PARKVIEW STATION, PITTSBURGH, PA.

The hospital was located in the reconstructed buildings of a county institution, formerly called the North Side Home, Hoboken, or the Warner House, Claremont; and in an adjacent institution, the Allegheny Workhouse. These buildings were on the north bank of the Allegheny River, on an area of ground 850 feet in width on the river front and 3,700 feet deep, and had been constructed on a terrace 1,100 feet back, thus affording an outlook of marked attractiveness. The terrain in the rear of the buildings was rolling; the newest portion with an upward slope, contained the farm buildings and an old orchard; the northernmost portion was in grain land. The soil was mostly clay with deposits of gravel; the flats along the river were an alluvial deposit from river floods.

The climate was much the same as that of Pittsburgh, with a higher velocity of wind, due to the exposed position. The region was hot in summer and was subject to electrical storms of great intensity.

On April 8, 1918, the Allegheny County commissioners offered the North Side Home to the Medical Department for use for hospital purposes. They proposed a rental of $20,000 per year, though they stated that if this rental seemed too high they would accept any terms deemed proper by the Government.[35] There were, exclusive of farm houses, 8 buildings in all, 3 of which—the administration building, the men's building and the women's building—were large brick structures with 3 floors, attic and basement; the other 5 were smaller structures situated in the rear and comprised the mortuary and laundry, bakery, heating plant, shop, and residence. The "home" had not been occupied for about two years; the heating system was old, the floors were badly worn, the buildings were gas lighted and in a state of ill repair. The place had been inspected by a representative of the Surgeon General's Office, the conditions were known, and it was realized that a considerable sum ($100,000 was the original tentative estimate) would be required to rehabilitate it to afford facilities for the care of from 750 to 1,000 sick.[36] While a rental figure had been proposed, it was within the knowledge of the Surgeon General's Office that the chamber of commerce, the mayor, and the people of Pittsburgh generally desired to offer this property free to the Government, and a nominal lease was accordingly recommended.[36] This was approved by the Secretary of War May 2, 1918, to be effective July 1, 1918.[37]

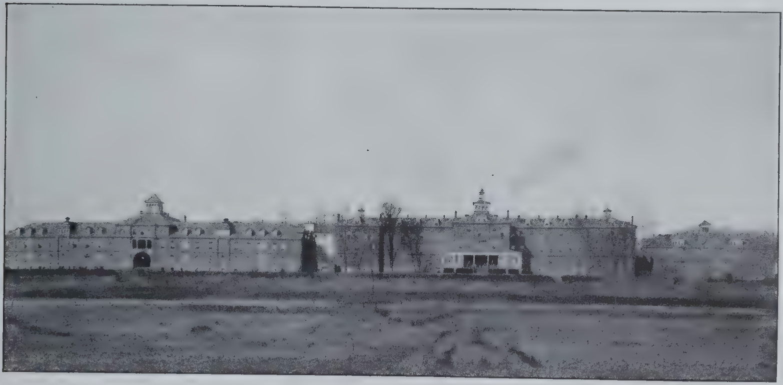

FIG. 183.—General Hospital No. 24, Parkview Station, Pittsburgh.

On July 19, an allotment of $126,000 was made to develop the hospital. Thorough study was given and every effort made to reduce construction and to impress upon those in direct charge of the new hospital and the alteration work that the object was to secure a satisfactory temporary hospital at minimum cost and not to develop, by extensive alteration and durable improvements, an ideal hospital at excessive costs. Subsequent to the above allotment $17,000 more was spent on repairs and alteration; and $62,000 was expended in constructing two new buildings for nurses, the only new buildings added, bringing the total to $205,000.

The work progressed slowly during the late summer, fall, and early winter of 1918. The difficulties encountered were not lessened by the labor situation, which was a constant source of trouble, and at times it was necessary to detail the enlisted men on construction work.

On August 26, 1918, the hospital was designated General Hospital No. 24[38] and in October 200 beds were available;[39] in December, 350;[39] in January, 1919, 600;[39] and in April the maximum, 700, had been provided.[39] It opened for sick in October and the number of sick in hospital increased *pari passu* with the capacity of the hospital.[39]

The bed capacity of this hospital was originally estimated at 750–1,000.[36] Subsequent events demonstrated that at least 750 beds should have been made available. The actual capacity developed, exclusive of potential space for 100 patients, vicariously secured by constructing new buildings for 100 nurses, was 600. Experience showed that, with buildings of the character of those at the North Side Home, with a high percentage of basement and attic space, and many small rooms to be utilized, at least 40 per cent of the total floor space could be covered with beds for patients, giving each bed 100 square feet. In this hospital, space was given storage, offices, waiting rooms, dining rooms, the receiving and surgical services, disproportionate to that allotted to beds.

On June 15, 1919, after it had been determined to abandon the hospital, the United States Public Health Service requested its transfer to that service. On July 15 the transfer was affected, all patients having been transferred elsewhere in the meantime.[40]

Statistical data, United States Army General Hospital No. 24, Parkview Station, Pittsburgh, Pa., from July, 1918, to July 22, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospitals.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
July	......	5	......	......	5	......	......	......	......	......	......	5	......	......	......	......	......
August	......	3	......	......	3	3	......	......	......	......	......	......	......	......	......	......	......
September	......	13	......	......	13	1	......	......	......	......	......	8	......	......	4	......	8
October	4	27	......	2	33	21	2	......	......	......	......	7	......	2	1	35	55
November	3	21	28	6	58	19	......	......	......	......	......	1	......	36	2	116	31
December	38	54	260	1	353	111	1	......	......	28	......	......	2	211	......	3,409	29
1919.																	
January	211	54	419	5	689	56	......	......	2	18	......	218	21	374	......	11,028	......
February	374	53	338	7	772	60	1	......	......	20	......	92	17	582	......	14,264	......
March	582	46	115	17	760	47	2	4	3	27	......	93	14	569	1	19,977	10
April	570	28	172	21	791	36	1	25	2	76	......	52	24	574	1	16,823	5
May	575	22	152	19	768	65	3	25	......	76	......	15	32	552	......	18,662	......
June	552	17	272	15	856	30	......	104	......	48	......	70	14	590	......	19,073	......
July	590	10	5	3	608	26	......	135	......	80	......	352	15	......	......	6,709	......

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical Data, United States Army General Hospital No. 24, Hoboken, Allegheny County, Pa., from July, 1918, to July, 22, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1919.					1919.				
January	....	....	....	....	May	58	45	....	103
February	15	30	....	45	June	58	45	....	103
March	15	44	....	59	July	58	45	....	103
April	10	40	....	50					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
July	4	....	1	5	76	12	88	....
August	5	....	2	7	77	12	89	....
September	6	....	2	8	77	12	89	....
October	8	4	3	15	127	18	145	9
November	13	4	3	20	140	19	159	32
December	21	4	4	29	468	30	498	28
1919.								
January	26	6	4	36	370	33	403	37
February	36	7	8	51	355	49	404	46
March	37	7	11	55	351	49	400	61
April	44	8	8	60	352	45	397	71
May	45	8	4	57	346	42	388	69
June	44	7	5	56	339	22	361	66
July	1	....	3	4	1	....	1	....

GENERAL HOSPITAL NO. 25, FORT BENJAMIN HARRISON, IND.

The site upon which Fort Benjamin Harrison had been located, in 1902, was a tract of land consisting of approximately 2,415 acres, and was about 13 miles, by railroad, northeast of Indianapolis. It was an ideal site in many ways; there were a magnificent first growth of forest trees, running streams, and moderately rolling land with green valleys and level fields. The soil was a rich, black loam, and the subsoil was principally gravel.

Permanent buildings had been constructed on the post for domiciliating a regiment of Infantry, and among them were included a permanently constructed post hospital of 66 beds capacity, and an isolation pavilion of 38 beds.[41]

The first efforts, on the part of the Medical Department, to secure the whole of Fort Benjamin Harrison for general hospital purposes, were made in May, 1917.[42] During this month the post was included in a general request, and, in addition, two specific requests for it were made upon the Secretary of War.[43]

In June, 1917, the commanding general, Central Department, was directed by the Secretary of War to make available as many permanent barracks at Fort Benjamin Harrison as were needed for base or general hospital purposes; and to provide tents at first, and later cantonments, for the well troops thus dispossessed.[44] In August, however, the department commander stated that it was his intention to use all of the post for the second training camp and, therefore, he had no space for hospital purposes. Later in the same month, the Secretary of War informed the department commander that 500 beds would

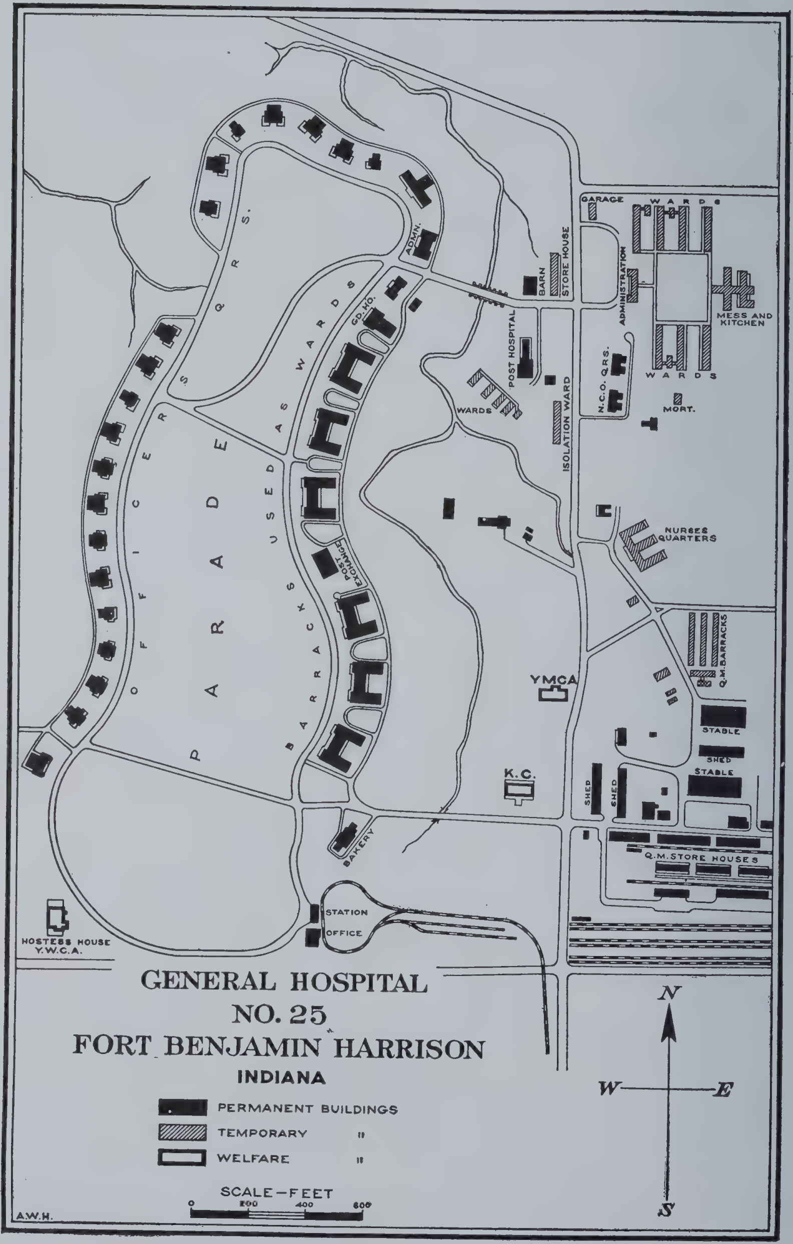
GARAGE
WARDS
ADMINISTRATION
MESS AND KITCHEN
WARDS
MORT.
N.C.O. QRS.
STORE HOUSE
BARN
POST HOSPITAL
WARDS
ISOLATION WARD
ADMN.
GD. HO.
OFFICERS QRS.
PARADE
BARRACKS USED AS WARDS
POST EXCHANGE
NURSES QUARTERS
Q.M. BARRACKS
YMCA
STABLE
SHED
STABLE
K.C.
SHED
SHED
Q.M. STORE HOUSES
BAKERY
STATION
OFFICE
HOSTESS HOUSE Y.W.C.A.
GENERAL HOSPITAL
NO. 25
FORT BENJAMIN HARRISON
INDIANA
PERMANENT BUILDINGS
TEMPORARY "
WELFARE "
SCALE—FEET
0
200
400
600
N
W
E
S
A.W.H.

Fig. 184.

be satisfactory for the Medical Department's use; and asked if the provision of that number in the post hospital and additional available buildings would interfere with the training work, to which the department commander replied 15 days later in the affirmative, stating that no space would be available for hospital purposes. On October 15, 1917, The Adjutant General placed all of the buildings at this post at the disposal of the department commander for Infantry winter quarters after the closure of the training camp, which was to take place November 25.[45] In the meantime, as a result of the instructions of the Secretary of War, which he had issued to the department commander in June, to make the permanent barracks available, the department surgeon was directed by the Surgeon General on June 30, to have a base hospital planned at Fort Benjamin Harrison and to make request for any additional buildings that might be required.[46] It had been the desire of the Surgeon General to avoid hospital construction, by using this post, along with others, for hospital purposes, and he felt that funds might thus be conserved by putting well troops in temporary barracks, at the same time housing the sick in the more comfortable, permanent buildings. Nothing came of this plan for a base hospital, however; nor was anything done at this post for a long time thereafter in the way of providing a general hospital; and the post buildings were continued in use for training camp purposes.

On September 21, 1918, Fort Benjamin Harrison was at last designated "General Hospital No. 25";[47] and in the following month the Secretary of War again directed the department commander, Central Department, to transfer the whole post to the Medical Department that it might be used as a general hospital, with the exception of the following buildings: The storehouse and other buildings, then being used by the Quartermaster Corps, the post administration building, the post exchange, the guardhouse, two barracks, and five officers' quarters.[48] These instructions were very explicit, and they would permit neither nullification nor discretionary action on the part of any subordinate commander. Plans were at once prepared, in the Office of the Surgeon General, for the construction of a large number of temporary buildings, which, with the use of the existing and available post buildings, would have given a bed capacity of 2,500.[49] The project was much reduced, however, before it had been approved, and was ultimately modified so as to provide but 500 beds in the temporary buildings. This reduced plan was approved by the Secretary of War but was not carried into effect. The urgency of the situation had passed. The commanding officer of the hospital was instructed to do the minimum amount of alteration, to proceed on the assumption that the hospital would not be required for a long period for the treatment of mental cases, and to limit requests for funds for alterations to $5,000 until further orders. The only work that was done, in addition to some temporary wards erected about the post hospital in May, 1917, for post use, was the renovation and alteration of some of the post buildings for hospital use.

The hospital operated under the name and organization of a post hospital until September 21, 1918, when it became a general hospital. Up to that time the sick had varied from 100 to 300 and the capacity had not exceeded 500.[50] In October, however, with the use of the post buildings turned over, the capacity was temporarily greatly increased, and about 1,600 sick had been sent there within a month.[50] It was deemed wise not to crowd this hospital as it had been denied complete construction facilities and the number of sick was allowed to fall, in another month, to about 900, near which figure it constantly remained throughout the rest of its existence as a general hospital.[50]

This hospital when opened treated general medical and surgical cases, but during the winter of 1918–19 it was used for the treatment of mental cases, drug addicts, inebriates, epileptics, and mental defectives. Still later the special work was discontinued and general medical and surgical cases of the more ordinary sort where sent there. On August 4, 1919, it was recommended that the hospital be discontinued as such on September 1, and revert to its former status;[51] the approval of the War Department was given on August 8 [52] and the discontinuance was carried into effect, as contemplated, on September 1.[53]

Statistical data, United States Army General Hospital No. 25, Fort Benjamin Harrison, Ind., from September, 1918, to August, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918																	
September	248	1,103	13	5	1,369	358	2	......	......	......	......	32	17	960	......	9,576	......
October	960	2,020	32	24	3,036	2,338	189	4	3	......	......	20	......	482	......	19,148	......
November	482	491	15	1	989	570	4	4	2	......	......	1	......	408	......	14,592	......
December	408	431	93	......	932	576	9	......	......	......	......	6	......	341	......	10,217	......
1919.																	
January	341	252	183	10	786	345	3	14	......	......	......	5	9	410	......	13,462	......
February	410	92	211	28	741	238	4	20	......	......	......	5	2	472	......	12,018	......
March	472	74	272	25	843	250	......	40	......	......	......	10	18	525	......	15,568	......
April	525	65	241	11	842	160	2	97	......	......	......	22	13	548	......	24,456	......
May	548	64	328	15	955	210	79	......	......	......	......	4	19	643	......	26,133	......
June	643	86	643	26	1,398	438	1	140	2	......	......	13	22	782	......	21,486	......
July	782	69	403	34	1,288	362	5	157	3	......	......	170	30	561	......	23,000	......
August	561	61	44	37	703	208	2	229	2	......	......	189	50	23	......	18,095	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
September	36	75	26	137	January	116	55	20	191
October	36	75	26	137	February	116	55	20	191
November	36	75	26	137	March	183	55	20	258
December	36	75	26	137	April	190	50	20	260
					May	310	50	20	380
					June	325	50	20	395
					July	275	70	20	365
					August	....	63	27	90

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 25, Fort Benjamin Harrison, Ind., from September, 1918, to August, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
September	30	3	....	33	175	....	175	34
October	37	3	....	40	150	....	150	50
November	26	4	1	31	150	....	150	65
December	31	8	2	41	461	....	461	60
1919.								
January	34	8	2	44	455	....	455	53
February	35	7	2	44	430	....	430	68
March	36	6	2	44	437	....	437	67
April	35	6	1	42	414	....	414	59
May	38	4	1	43	401	....	401	69
June	39	5	2	46	392	....	392	66
July	39	5	2	46	395	....	395	62
August	28	1	....	29	176	....	176	53

GENERAL HOSPITAL NO. 26, FORT DES MOINES, IOWA.

Fort Des Moines was located within 5¼ miles of the city of Des Moines, Iowa, on a rolling terrain that was slightly wooded with dwarf timber. The soil was a rich, black loam fully 3½ feet thick, superimposed upon a clayey loam—the "Iowa glacial" drift. The soil was readily metamorphosed into an almost impalpable dust, which was easily carried by the winds in dry weather, and in wet weather it became a tenaceous mud; but as the post was well sodded and provided with gravel roads and cement walks, no real inconvenience was caused by mud. The summers were usually hot and dry, and the winters severely cold and attended by much snow; the falls were ideally pleasant, but the springs were usually cold and damp, with much rain and occasional cyclonic storms.

The early history of the general hospital, which was finally established at this station, is drawn out over a long period of time, as the following chronologically arranged events will bear testimony: On July 2, 1917,[54] the Surgeon General requested the use of the permanent buildings at Fort Des Moines for hospital purposes, and on the day following, the Secretary of War authorized the department commander, Central Department, to turn over the necessary barracks at Fort Des Moines for base and general hospital purposes.[55] On the same day, July 3,[56] the Surgeon General directed the department surgeon, Central Department, to make plans for a large base hospital at Des Moines and to call for any additional buildings required. On September 11, 1917,[57] the Surgeon General requested the construction of two psychiatric wards and two isolation wards, the conversion of a storehouse into a receiving ward, the conversion of four stables into barracks, and a mess hall for Medical Department men, and the conversion of the post exchange and gymnasium into a dispensary, eye, ear, nose, and throat and dental building, and funds for this work were allotted in October, 1917. This was the first project of any size contemplated at this place, but the construction was delayed and the work was not completed until May, 1918, when a bed capacity of 1,100 had been obtained.

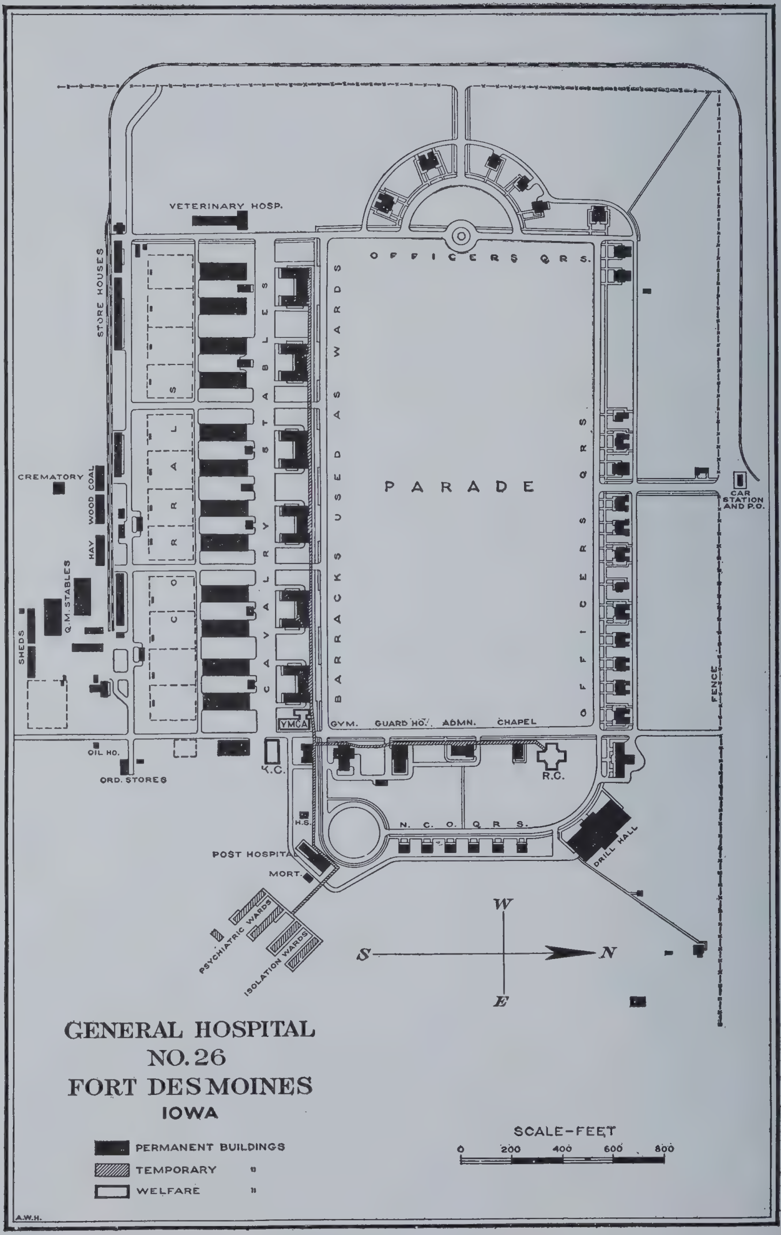
GENERAL HOSPITAL
NO. 26
FORT DES MOINES
IOWA
▬ PERMANENT BUILDINGS
▨ TEMPORARY "
▭ WELFARE "
SCALE-FEET
0 200 400 600 800
VETERINARY HOSP.
OFFICERS QRS.
STORE HOUSES
CAVALRY STABLES
CORRALS
BARRACKS USED AS WARDS
PARADE
OFFICERS QRS.
CREMATORY
COAL
WOOD
HAY
Q.M. STABLES
SHEDS
CAR STATION AND P.O.
FENCE
YMCA
GYM.
GUARD HO.
ADMN.
CHAPEL
OIL HO.
ORD. STORES
K.C.
R.C.
H.S.
N.C.O. QRS.
DRILL HALL
POST HOSPITAL
MORT.
PSYCHIATRIC WARDS
ISOLATION WARDS
W
S
N
E
A.W.H.

FIG. 185.

On October 15, 1917,[58] the Secretary of War telegraphed the department commander that Fort Des Moines would be at his disposal when the Reserve Officers' Training Camp and Medical School ended on the same date, but that only one battalion of Infantry would be stationed at the post. On November 7, 1917, the Surgeon General requested the use of the whole post for general hospital purposes;[59] and on January 4, 1918,[60] he requested the designation of Fort Des Moines as a general hospital, the same request being repeated in the following February. On March 14, 1918,[61] the Secretary of War disapproved this request. In April the post hospital was designated as a base hospital. On May 13 [62] the Surgeon General again recommended that this station be designated a general hospital. There was space here now for sick, and it was desired to use it to the very best advantage. In August the station was designated a department base hospital. On September 11, 1918,[63] the Surgeon General again requested that this post be made a general hospital; and on September 21 the request was approved.[64]

A number of projects for the further development of this post were then studied and a satisfactory construction project was developed contemplating 10 buildings and some alterations in existing buildings, all of which would have provided additional beds for 1,000 sick; but because of the armistice this work was disapproved.

Complete reconstruction facilities were provided in this hospital, and special facilities, including prosthetics, for the treatemnt of amputation cases were developed.

In April, 1918, when it was designated a base hospital, the capacity was 300. With some additional permanent post buildings and new construction the capacity rose to 1,150 by June. In August it was increased to a maximum of 1,500. A trivial number of sick was cared for in this hospital at the time the above designation was made, but the number soon rose to 500, where it remained until September 25, 1918. It now became a general hospital and was put to good use, for, by November 15, it was filled with over 1,400 sick. The number ran along between about 1,200 and 1,800 until May, 1919, when a decline began, and by October of that year only 673 sick were in the hospital.[65]

On September 8, 1919, the Surgeon General recommended the discontinuance of this general hospital, and its reversion to a post hospital, effective October 15.[66] This recommendation was approved September 13,[67] and the change was duly carried out.

Statistical data, United States Army General Hospital No. 26, Fort Des Moines, Iowa, from September 24, 1918, to October 19, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
September	441	36	366	33	876	86	2	74	......	......	......	1	32	681	......	14,019	......
October	681	138	689	26	1,534	137	12	54	......	......	......	6	24	1,301	......	30,515	......
November	1,301	89	380	32	1,802	167	20	29	......	......	......	180	91	1,314	1	41,174	5
December	1,315	64	324	126	1,829	72	6	36	......	......	......	527	82	1,106	......	37,600	......
1919.																	
January	1,106	72	225	43	1,446	79	3	27	......	......	......	441	31	865	......	31,183	......
February	865	52	319	10	1,246	62	2	35	......	......	......	105	54	988	......	26,045	......
March	988	72	319	122	1,501	63	......	71	......	......	......	142	203	1,022	......	29,848	......
April	1,022	34	403	206	1,665	56	1	121	......	......	......	195	195	1,097	......	31,819	......
May	1,097	29	159	164	1,449	27	4	136	......	......	......	93	168	1,021	......	31,770	......
June	1,021	36	293	86	1,436	28	1	311	......	......	......	114	97	885	......	31,849	......
July	885	40	452	108	1,485	35	2	174	......	......	......	230	139	905	......	28,140	......
August	905	23	405	117	1,450	43	1	204	1	......	......	225	126	850	......	26,763	......
September	850	31	118	125	1,124	52	1	132	2	......	......	211	116	610	......	18,605	......
October	610	13	......	50	673	33	......	141	......	......	......	493	6	......	......	5,654	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					**1919.**				
September	105	48	35	188	March	7	63	58	128
October	105	48	35	188	April	7	63	58	128
November	105	48	35	188	May	7	63	58	128
December	7	63	57	127	June	7	63	58	128
					July	7	63	58	128
1919.					August	7	63	58	128
January	7	63	58	128	September	7	63	58	128
February	7	63	58	128	October	7	63	58	128

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.		
1918.									
September	55	7	2	64	681	83	764	86	1
October	57	9	3	69	675	82	757	90	1
November	63	8	2	73	657	103	760	114	1
December	77	13	2	92	662	117	779	111	1
1919.									
January	86	12	3	101	660	109	769	118	1
February	66	13	3	82	605	115	720	99	2
March	60	13	5	78	583	99	682	98	1
April	60	11	9	80	501	87	588	88	....
May	61	10	9	80	492	54	546	105	....
June	50	10	10	70	549	44	593	105	....
July	46	8	9	63	485	30	515	102	....
August	50	6	7	63	457	30	487	102	....
September	37	6	7	50	450	31	481	77	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 27, FORT DOUGLAS, UTAH.

Fort Douglas is located in the foothills of the Wasatch Mountains, 3½ miles southeast of Salt Lake City, which it overlooks from an added elevation of 800 feet. The terrain is practically level, with a gentle sloping away from the mountains to the rear of the post. The soil is sandy, thus insuring the absence of mud following rains and a freedom from dust during the times when the winds blow.

Fort Douglas had been a permanent garrison for a regiment of Infantry and there were an excellent post hospital, barracks, officers' quarters, and other complementary buildings.

In the early summer of 1918, it appeared that this post would make a particularly desirable acquisition as a general hospital: there were no general hospital facilities, other than for the treatment of tuberculosis, in all that vast area lying between the Pacific Coast and the Central States. So, early in July an informal arrangement was made between the Surgeon General and the Director of Operations, General Staff, that the permanent buildings at Fort Douglas, except six designated structures, would be used for general hospital purposes.[68]

On August 3, 1918,[69] the buildings were made actually available to the Medical Department. They consisted chiefly of two groups of barracks and a group of storehouses, a stable, etc. Though they, in themselves, would not make a large hospital, it was thought they would do very well as a beginning in this geographical region; and obtaining them marked the beginning of what was designated by the War Department, September 21, General Hospital No. 27.[70]

In the meantime, a commanding officer for the general hospital to be developed was ordered to take command. To start the project his original instructions were to submit at once a comprehensive but moderate estimate of funds necessary to renovate and occupy the existing buildings, which had been turned over, and to contemplate only minor alterations, and no new construction if it could possibly be avoided; the probability of future extension by new construction was pointed out and present action was not to interfere with that eventuality. The Secretary of War had stated that no additional space would be given this hospital until the buildings already made available were full of sick.

Estimates were then submitted for the adaptation of the existing buildings and for the construction of 14 new buildings. The new construction was greatly reduced and the following was authorized on October 14 by the Secretary of War: The construction of two temporary barracks and one general mess and kitchen; alterations and repairs covering the inclosing of porches in temporary wards; necessary heating equipment, plumbing fixtures, repairs, etc., for the existing barrack buildings; alterations to furnish quarters and a mess for officers; and screening, painting, calcimining, and miscellaneous general repairs.[71] In due time this work was begun but it was never completed: with the demobilization of troops and the abandonment of portions of the cantonments following the armistice there was found to be sufficient hospital space to obviate the necessity for completing this work. The effect of these events was not felt at once, but in February, 1919, the work was stopped. This hospital, though organized on the basis of a large hospital and prepared for expansion, never emerged from the small hospital class nor exceeded 500 beds in capacity. The total cost was $284,479.

On June 18, 1919, it was felt that General Hospital No. 27 could be dispensed with by the first of the following August. Its discontinuance was recommended to the Secretary of War, who approved it two days later.[72] By July 15,[73] however, it was found to be impracticable to close the hospital, by reason of the lack of sufficient beds properly located elsewhere to permit of a comfortable and orderly transfer of the sick; therefore, its discontinuance was deferred until September 1, on which date it was closed and a reduced post hospital reestablished in its stead.[74]

Statistical data, United States Army General Hospital No. 27, Fort Douglas, Utah, from September 25, 1918, to September 1, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged; expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
September	......	79	......	3	82	18	......	......	1	......	......	......	2	61	......	394	......
October	61	59	536	......	656	368	21	1	......	......	......	......	5	261	......	6,061	......
November	261	29	228	......	518	297	6	3	......	......	......	1	2	209	......	4,565	......
December	209	31	116	......	356	229	24	23	......	......	......	......	7	73	......	3,901	......
1919.																	
January	73	20	180	......	273	77	3	5	......	......	......	......	10	178	......	3,739	......
February	178	19	184	4	385	79	1	1	......	......	......	11	4	289	......	7,818	......
March	289	27	248	7	571	193	2	16	......	......	......	26	8	326	......	13,651	......
April	326	22	247	12	607	181	......	35	......	......	......	14	5	372	......	15,916	......
May	372	19	96	10	497	164	1	49	......	......	......	16	12	255	......	15,819	......
June	255	10	398	14	677	134	......	49	......	......	......	5	9	480	......	18,285	......
July	480	21	75	......	576	212	......	136	......	......	......	53	15	160	......	15,892	......
August	160	9	41	4	214	52	1	51	......	......	......	96	14	......	......	5,572	......

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
September	18	....	....	18	106	....	106	12
October	15	4	....	19	130	....	130	54
November	14	4	1	19	152	10	162	59
December	13	4	1	18	156	21	177	47
1919.								
January	11	4	1	16	137	20	157	42
February	17	6	2	25	124	24	148	44
March	20	6	3	29	196	21	217	54
April	23	5	6	34	194	80	274	46
May	25	5	4	34	181	66	247	45
June	23	4	4	31	177	62	239	44
July	19	4	4	27	156	54	210	41
August	13	4	1	18	94	51	145	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 28, FORT SHERIDAN, ILL.

Fort Sheridan had been abandoned practically since 1913. Almost the entire garrison had in that year been sent to the Mexican border, and the largest number of troops stationed at the post from that time until the spring of 1917 was one squadron of Cavalry. The general upkeep of the large and well-appointed reservation naturally suffered, and the buildings and grounds became somewhat shabby from lack of proper care.

Shortly after the war began an officers' training camp, containing approximately 5,000 candidates, was established at this post. The old post hospital, which had been partially closed, was reopened, completely and thoroughly cleaned, but very little money was spent upon it. Four separate wards, connected by covered porches and heated by a separate plant, were built to the west of the hospital. These wards were temporary buildings, lined with beaver board, and they were to be used for the normal expansion anticipated in a garrison of that size.

In making provisions for the large number of wounded who were expected to begin arriving from France in the fall of 1918, it was decided in the Surgeon General's Office that Fort Sheridan was excellently located for the establishment there of a large general hospital. Steps were taken providing for the turning over of most of the post of Fort Sheridan to the Medical Department, to be used as a nucleus for this general hospital.[75] Plans were made for the erection of a large number of temporary buildings for wards, etc.,[76] with the intention of giving the hospital a capacity in round numbers of 5,000 beds. The Medical Department assumed control September 21, 1918, of that part of the post which had been transferred to it. Construction work for the remodeling of the old buildings and the erection of the new was begun October 2, 1918. At first the organization of the hospital was not planned carefully, and for several months it was only an expansion of the post organization which had been in existence since the beginning of the war. Patients from overseas began to arrive at the hospital November 17, 1918, and by January 1, 1919, there were 1,241 under treatment.[77]

A number of old stables on the post were remodeled to be used as barracks for the detachment, Medical Department, on duty at this hospital;[78] but they were not completed until March, 1919, and the men were, naturally, very uncomfortable until the proper changes had been made. These detachment men were compelled also to eat in the already crowded mess halls[78] of the hospital until February 5, 1919, when the detachment kitchen and mess hall had been completed.

The nurses and officers were accommodated in the officers' quarters[79] and were fairly comfortable from the beginning, though crowded to a certain extent. The nurses' mess was established in the old officers' club, and the commanding officer's residence was remodeled into a duty officers' mess.

The educational department was established in January, 1919, in one of the Cavalry barracks, which had been remodeled for the purpose.[80] The physiotherapy department was established in a small ward in one of the permanent buildings until the temporary buildings were constructed, when it was moved to the first floor of building No. 129 and there, completely established with every convenience, became a well administered department.

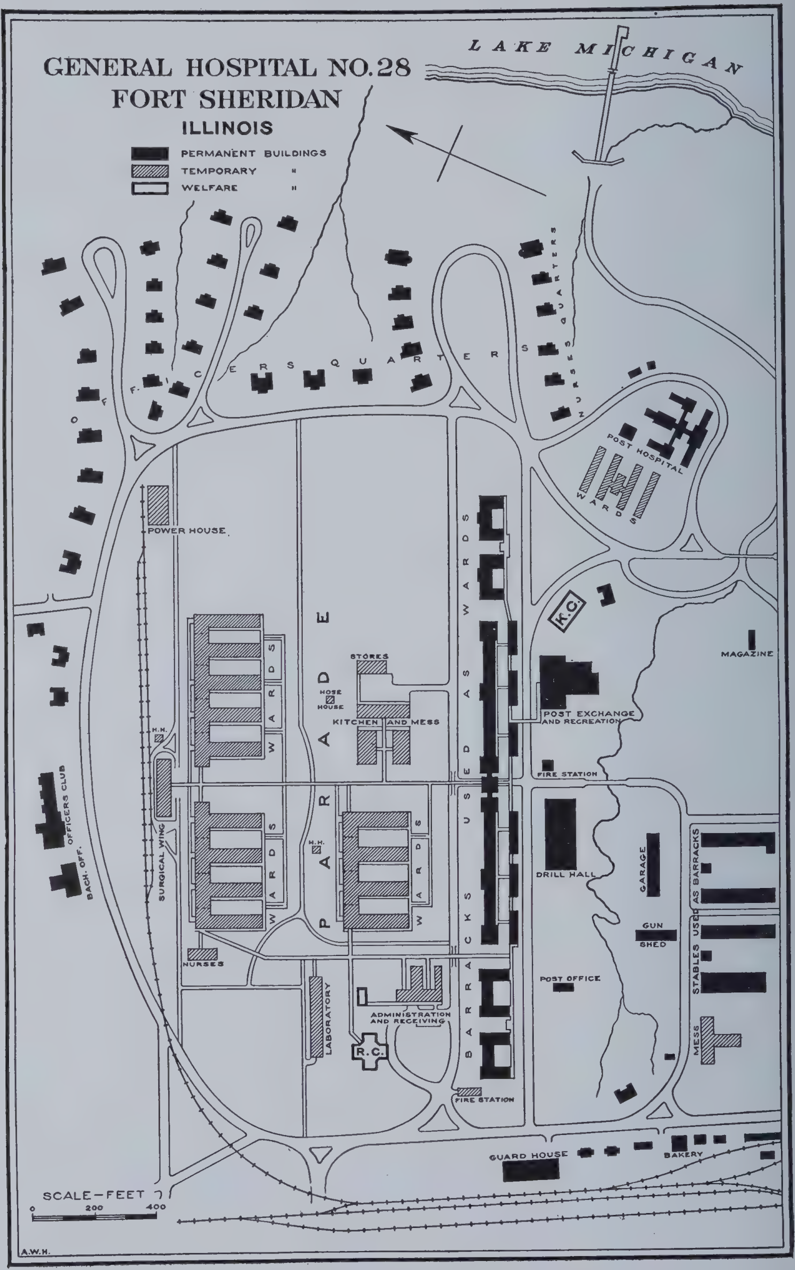
GENERAL HOSPITAL NO. 28
FORT SHERIDAN
ILLINOIS
PERMANENT BUILDINGS
TEMPORARY "
WELFARE "
LAKE MICHIGAN
OFFICERS QUARTERS
NURSES QUARTERS
POST HOSPITAL
WARDS
POWER HOUSE
PARADE
WARDS
WARDS
WARDS
STORES
HOSE HOUSE
KITCHEN AND MESS
M.H.
M.H.
BARRACKS USED AS WARDS
K.C.
MAGAZINE
POST EXCHANGE AND RECREATION
FIRE STATION
OFFICERS CLUB
BACH. OFF.
SURGICAL WING
DRILL HALL
GARAGE
GUN SHED
STABLES USED AS BARRACKS
NURSES
LABORATORY
ADMINISTRATION AND RECEIVING
R.C.
POST OFFICE
MESS
FIRE STATION
GUARD HOUSE
BAKERY
SCALE—FEET
0
200
400
A.W.H.

Fig. 186.

General Hospital No. 28 became the largest general hospital provided in the United States during the war. It consisted of practically all of the permanent buildings of Fort Sheridan and 27 new two-story frame buildings, erected upon the parade ground, and all connected by corridors.

The first wards to be occupied were those established in the permanent buildings, in addition to the post hospital and its outlying wards. On February 19, 1919, the first of the temporary wards was occupied, and in April, 1919, the last remaining ward building was completed and occupied.

The hospital, as finally organized, and with practically its full capacity in use, was arranged in such a way that the administrative features were handled to promote simplicity and efficiency. By reference to Figure 186, it can be seen that this hospital, with a capacity of 4,800 patients, covered less ground than the average base hospital in a cantonment, the capacity of which was about 2,000. Division of the hospital into sections was carefully made so as to group special classes of cases together, not only tending to promote better administrative control but the simplification of professional treatment.

The hospital, during January of 1919, averaged about 1,000 patients.[77] This number increased gradually until June, at which time there were 4,987 patients.[77] From then until the first of September the increase was very rapid, and on August 1, 1919, there were 5,295 patients in the hospital.[77] This was the largest number cared for at one time, and throughout the following fall the reduction in number was rapid and steady. In November there was a considerable increase in the number of patients, caused by the sending home from France of a large number of genitourinary patients who had been held in detention there. Altogether 1,200 such patients were received.

Statistical data, United States Army General Hospital No. 28, Fort Sheridan, Ill., from September 24, 1918, to December 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
October	295	124	5	28	452	334	35	.....	.....	.....	.....	.....	2	80	1	4,199	112
November	81	254	2	87	424	274	8	12	1	.....	.....	2	2	125	.....	4,117	32
December	125	158	11	377	671	120	1	1	.....	.....	.....	.....	.....	549	.....	9,955	.....
1919.																	
January	549	255	87	572	1,463	192	1	2	2	.....	1	3	2	1,260	.....	50,723	.....
February	1,260	209	385	20	1,874	544	2	50	2	.....	.....	20	12	1,244	.....	35,731	.....
March	1,244	237	1,376	30	2,887	653	3	70	10	24	.....	17	154	1,956	.....	53,515	.....
April	1,956	175	1,092	177	3,400	680	3	74	13	24	.....	28	243	2,335	.....	72,027	.....
May	2,335	125	1,379	248	4,087	620	9	210	13	22	.....	70	290	2,853	.....	76,700	.....
June	2,853	69	1,765	300	4,987	79	9	262	15	59	.....	862	413	3,288	.....	88,996	.....
July	3,288	65	1,914	548	5,815	89	9	645	12	407	.....	593	443	3,617	.....	113,419	.....
August	3,617	87	1,101	490	5,295	100	10	748	5	364	.....	373	757	2,938	.....	110,502	.....
September	2,938	82	384	711	4,115	123	9	430	.....	258	.....	130	659	2,506	.....	107,665	.....
October	2,506	50	1,138	590	4,284	77	5	298	.....	223	.....	29	696	2,922	34	76,171	319
November	2,956	78	558	529	4,121	110	5	260	.....	244	.....	23	692	2,787	.....	117,788	1,028
December	2,787	65	164	591	3,607	102	8	327	.....	323	.....	14	1,240	1,593	.....	75,347	.....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 28, Fort Sheridan, Ill., from September 24, 1918, to December, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.									
September	73	61	74	208	April	73	263	75	411
October	73	61	74	208	May	79	280	78	437
November	73	61	74	208	June	79	280	78	437
December	73	61	74	208	July	70	280	78	428
					August	70	280	78	428
1919.					September	70	280	78	428
January	73	61	74	208	October	70	280	78	428
February	73	263	74	410	November	70	280	78	428
March	73	263	74	410	December	70	280	78	428

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Aides and workers.	Other civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous. (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous. (Q. M. C., etc.).	Total.			
1918.										
October	32			32	77		77	16		
November	25	4		29	161		161	14		
December	51	6		57	1,025		1,025	148		
1919.										
January	68	13		81	983	30	1,013	173		
February	90	17	7	114	951	23	974	215		
March	136	17	6	159	1,293	27	1,320	264		
April	135	19	13	167	1,125	26	1,151	293		1
May	139	18	19	176	1,011	62	1,073	392	185	431
June	157	18	23	198	998	61	1,059	332	259	525
July	154	20	19	193	977	59	1,036	465		1
August	156	18	21	195	1,045	58	1,103	489		
September	115	12	25	152	940	54	994	483		
October	105	6	15	126	896	81	977	454		
November	112	7	14	133	844	147	991	806		
December	102	7	13	122	766	161	927	244		

GENERAL HOSPITAL NO. 29, FORT SNELLING, MINN.

Fort Snelling is situated 1 mile southeast of Minneapolis, a city of approximately 364,000 inhabitants, and immediately across the Mississippi River from St. Paul, a city of 292,000 inhabitants, and the State capital.

The military reservation is a tract of land about 2,000 acres in extent, extending from the point of confluence of the Mississippi and Minnesota Rivers in a general southwesterly direction between the two rivers. The part of the reservation occupied by the buildings of the post and hospital is a high plateau, 790 feet above sea level, bounded on two sides by steep declivities extending down to the two rivers, and strongly fortified by nature. The plateau is beautifully wooded, as are the bottom lands beyond, which were cut by many natural ravines.

The soil of the greater part of the reservation is a light sandy loam, shading into a richer loam to the southwest. The edges of the cliff at the promontory show a deep subsoil of clay, gravel, and soft sandstone. Although there was a considerable amount of sand in the surface soil, the paving of the roads and the vegetation prevented the flying of much dust in dry weather and the carrying of any considerable amount of mud after rains.

The climate of the region was found to be temperate, with the exception that there was usually some rigorous weather in the middle of the winter. This, however, did not extend over periods of any considerable length of time. The hospital site was well protected against the wind on three sides, but was exposed on the west.

The main road through the post was tarvia-macadam, the other roads being of dirt and gravel, rolled down, which were very well kept up. The grounds were bordered on the north by the Mississippi River and on the east and south by the Minnesota River.

Fort Snelling was included in the list of posts for which the Surgeon General made request in June, 1917, that they might be used as general hospitals;[81] but on October 15, 1917,[82] the Secretary of War placed Fort Snelling at the disposal of the department commander for use as Infantry winter quarters, thus eliminating it from possible use by the Medical Department.

The Surgeon General reiterated his request to the Secretary of War on November 7, 1917;[83] but, in view of the fact that accommodations for 25,000 sick had already been provided elsewhere, this latest request was disapproved.

In the following summer, August 12, 1918,[84] the department commander turned the post over to the post surgeon for hospital use; and in September, the extemporaneous use of the post buildings, which included three temporary wards and a mess hall and kitchen that had been added to the post hospital in June, 1917, permitted the provision of space for 500 beds. At this time a plan was recommended looking to the complete adaptation of the post for general hospital purposes. This was the first real step toward the enlargement of the hospital and the provision of additional general hospital space, so much needed. The plan included[85] the glazing of porches on six double barracks, and their connection with glass-inclosed corridors; the installation of necessary toilet facilities and ward accessories on the first and second floors of all barracks; the erection of a general kitchen and mess hall and its connection with a chain of renovated barracks; the construction of a kitchen and mess hall for the hospital attendants; the alteration of quarters and the provision of messing facilities, for nurses; and other necessary general utilities and miscellaneous improvements and alterations. On September 21, 1918, the hospital was designated "General Hospital No. 29."[86]

The work of adaptation was delayed somewhat. Unfortunately, the winter was near at hand and the severe weather added difficulties; nevertheless, the construction work was pushed throughout the winter, alterations were installed, the new buildings erected, and a capacity of 1,100 was secured.

In September, 1918, the hospital contained 250 beds and 51 sick. In October, both the capacity of the hospital and the number of sick had increased to over 1,500, only to fall again in November. In December, the number of sick increased and, coincidently, the capacity of the hospital, now being enlarged by alteration and construction. In January, 1919, the maximum number of beds, 1,100, was available, and 900 sick were under treatment. From this time until June the sick varied between 900 and 1,100.[87]

In addition to general medical and surgical work, special care for the following kinds of cases was provided: Amputations, orthopedic conditions, injuries to the peripheral nerves, skull, brain, and cord; organic diseases of the nervous system, mental defects, drug addicts, inebriates, and epileptics. Provisions for full physical reconstruction activities were also made.

On June 6, it was apparent that this hospital would be abandoned in the late summer, and accordingly the commanding officer was given advance information to this effect.[88] On June 18, 1919, the Surgeon General recommended to the Secretary of War that the hospital be discontinued on August 1;[89] and, the Secretary of War's approval being given two days later, appropriate steps were taken to accomplish the work. On August 1 this institution was discontinued and normal post work for a battalion was resumed in the original post hospital.[90]

Statistical data, United States Army General Hospital No. 29, Fort Snelling, Minn., from September 21, 1918, to August 8, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.				
			By transfer.	Otherwise.										Hospital.	Quarters.	Hospital.	Quarters.
1918.																	
September	51	79	249	2	381	89	1	1	.....	.....	.....	3	1	285	1	1,759	11
October	286	437	997	6	1,726	1,412	53	2	.....	.....	.....	.....	7	251	1	16,044	48
November	252	62	801	1	1,116	404	8	4	.....	.....	.....	.....	79	621	.....	12,101	36
December	621	183	687	1	1,492	574	3	1	1	.....	.....	113	170	629	1	18,011	44
1919.																	
January	630	268	444	8	1,350	195	2	58	2	.....	.....	317	55	717	4	23,550	71
February	721	110	432	92	1,355	102	1	124	1	.....	.....	184	141	802	.....	23,510	.....
March	802	91	384	153	1,430	170	4	126	.....	.....	.....	.....	245	885	.....	27,801	.....
April	885	52	419	162	1,518	120	6	103	.....	.....	.....	2	286	987	14	28,568	247
May	1,001	167	251	33	1,452	67	1	211	2	.....	.....	3	301	854	13	30,551	550
June	867	155	490	30	1,542	65	2	218	.....	.....	.....	2	392	855	8	27,948	110
July	863	104	33	30	1,030	39	.....	347	.....	.....	.....	12	269	363	.....	22,832	.....
August	363	1	.....	.....	364	3	.....	34	1	.....	.....	316	10	.....	.....	2,576	.....

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
September	44	30	35	109
October	44	30	37	111
November	44	30	37	111
December	40	38	34	112
1919.				
January	40	39	36	114
February	40	38	34	112
March	40	38	34	112
April	40	38	34	112
May	40	38	34	112
June	40	38	34	112
July	40	38	34	112
August	40	38	33	111

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office, and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 29, Fort Snelling, Minn., from September, 21, 1918, to August 8, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
September	22	2	4	28	378	65	443	40
October	21	2	8	31	443	73	516	49
November	26	4	10	40	477	106	583	71
December	39	6	10	55	568	143	711	55
1919.								
January	50	5	9	64	670	139	809	53
February	61	7	10	78	651	139	790	62
March	66	7	9	82	666	73	739	87
April	60	7	8	75	633	61	694	88
May	47	8	7	62	634	55	689	88
June	44	7	6	57	598	67	665	103
July	46	7	9	62	598	69	667	93
August	11	....	2	13	33	73	106	....

REFERENCES.

(1) Letter from the officer in charge of cantonment construction to Surgeon General, March 15, 1918. Subject: 1,000-bed tuberculosis hospital for Azalea, N. C. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 19) K.

(2) Letter from Chief Real Estate Section, Purchase, Storage, and Traffic Division, General Staff, to the Surgeon General, November 25, 1918. Subject: Purchase of 404 acres of land upon which General Hospital No. 19, Azalea, N. C., is located. On file, Record Room, S. G. O., 601 (Azalea, N. C.) S.

(3) Letter from the Surgeon General to the Quartermaster General, for the officer in charge of cantonment construction, March 16, 1918. Subject: Plans for 1,000-bed hospital to be constructed at Azalea, N. C. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 19) K.

(4) Telegram from Gorgas to commanding officer, General Hospital No. 19, Azalea, N. C., July 29, 1918. Subject: Authority to enlarge hospital by 500 beds. On file, Record Room, S. G. O., 600.4 (Gen. Hosp. No. 19) K.

(5) Shown on plans of General Hospital No. 19. On file, Hospital Division, S. G. O.

(6) Report of sanitary inspection of General Hospital No. 19, at Oteen (Azalea), N. C., on December 9, 1918, by Col. J. B. Clayton, M. C. On file, Record Room, S. G. O., 721 (Gen. Hosp. No. 19) K.

(7) Letter from commanding officer, General Hospital No. 19, to the Surgeon General, December 13, 1918. Subject: Recommendations relating to additions to this hospital. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 19) K.

(8) Letter from the Surgeon General to the Chief of Staff, March 25, 1919. Subject: Change of status, General Hospital No. 19. On file, Record Room, S. G. O., 680.1 (Gen. Hosp. No. 19) K.

(9) First indorsement from War Department, A. G. O. to the Surgeon General, May 25, 1918. Subject: Designation of hospitals. On file, Record Room, S. G. O., 322.3 (Gen. Hosps.) K.

(10) Shown on weekly reports compiled in the Surgeon General's Office. On file, Record Room, S. G. O., 632 (U).

(11) Letter from Col. W. F. Lewis, M. C., to the Surgeon General, May 16, 1918. Subject: Sanitary inspection, Whipple Barracks, Ariz. On file, Hospital Division, S. G. O. (Gen. Hosp. No. 20 inspection reports).

(12) Letter from the Surgeon General to The Adjutant General, February 6, 1918. Subject: Use of Whipple Barracks by Medical Department for tuberculosis purposes. On file, Record Room, S. G. O., 680.2 (Whipple Barracks, Ariz.) N.

(13) Letter from The Adjutant General to the commanding general, Southern Department, February 15, 1918. Subject: Assigning Whipple Barracks to the Medical Corps. On file, Record Room, S. G. O., 601 (Whipple Barracks, Ariz.) N.

(14) First indorsement from War Department, A. G. O. to the Surgeon General, May 25, 1918. Subject: Designation of general hospitals. On file, Record Room, S. G. O., 322.3 (General Hospital) K.

(15) Letter from the Surgeon General to the Construction Division, War Department, July 5, 1918. Subject: Additional hospital buildings, General Hospital No. 20. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 20) K.

(16) Telegram from commanding officer, General Hospital No. 20, to the Surgeon General, June 19, 1918. Subject: Hospital accommodations. On file, Record Room, S. G. O., 705 (Gen. Hosp. No. 20) K.

(17) Shown on weekly bed report. On file, Record Room, S. G. O., 632 (U).

(18) Memorandum from Assistant Chief of Staff, Director of Operations, to the Assistant Secretary of War, January 6, 1919. Subject: Army hospital for city of Philadelphia. Approval of Assistant Secretary of War indorsed thereon. On file, Record Room, S. G. O., 481 (Gen. Hosp. No. 22) K.

(19) Copy of resolution. On file, Record Room, S. G. O., 481 (Gen. Hosp. No. 22) K.

(20) Report of sanitary inspection of General Hospital No. 22 at Philadelphia, Pa., April 4–5, 1919, by Col. E. R. Schreiner, M. C. On file, Record Room, S. G. O., 721 (Gen. Hosp. No. 22) K.

(21) Letter from Surgeon General to Director Purchase, Storage, and Traffic, General Staff, May 28, 1919. Subject: Closing of General Hospital No. 22, Philadelphia, Pa. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 22) K.

(22) Letter from The Adjutant General to the Surgeon General, June 5, 1919. Subject: Abandonment of General Hospital No. 22, Philadelphia, Pa. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 22) K.

(23) Telegram from commanding officer, General Hospital No. 22, Philadelphia, Pa., to the Surgeon General, July 1, 1919. Subject: Report of closing. On file, Record Room, S. G. O., 602–1 (Gen. Hosp. No. 22) K.

(24) Letter from Capt. E. J. Tucker, Sanitary Corps, to Lieut. Col. Wm. C. Hoad, Sanitary Corps, September 24, 1918. Subject: Report on water supply, General Hospital No. 23, Hot Springs, N. C. On file, Record Room, S. G. O., 671 (Gen. Hosp. No. 23) K.

(25) Letter from the Acting Secretary of Labor to the honorable the Secretary of War. April 23, 1918. Subject: Internment camp at Hot Springs, N. C. On file, Record Room, S. G. O., 601 (Hot Springs, N. C.) S.

(26) Letter from Lieut. Col. Wm. A. Smith, M. C., to the Surgeon General, May 8, 1918. Subject: Inspection of internment camp, Hot Springs, N. C. On file, Record Room, S. G. O., 601 (Hot Springs, N. C.) S.

(27) Letter from the Surgeon General to the Chief of Staff, May 22, 1918. Subject: Renewal of lease on internment camp at Hot Springs, N. C. On file, Record Room, S. G. O., 601 (Hot Springs, N. C.) S.

(28) Copy of lease. On file, Record Room, S. G. O., 481 (Hot Springs, N. C.) F.

(29) Letter from the Chief of Construction Division to the Surgeon General, December 4, 1918. Subject: Water supply for General Hospital No. 23, Hot Springs, N. C. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 23) K.

(30) Letter from commanding officer, General Hospital No. 23, to the Surgeon General, January 30, 1919. Subject: Request information as to policy determined for this hospital. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 23) K.

(31) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(32) Letter from the Surgeon General to the Director of Operations, Office of the Chief of Staff, January 31, 1919. Subject: Cancellation of lease, General Hospital No. 23, Hot Springs, N. C. On file, Record Room, S. G. O., 481 (Gen. Hosp. No. 23) K.

(33) Letter from The Adjutant General to the Surgeon General, February 10, 1919. Subject: Abandonment of General Hospital No. 23, Hot Springs, N. C. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 23) K.

(34) Letter from the commanding officer, General Hospital No. 23, Hot Springs, N. C., to the Surgeon General, March 15, 1919. Subject: Abandonment of General Hospital No. 23. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 23) K.

(35) Letter from county commissioners of Allehgeny County, Pa., to the Surgeon General, April 8, 1918. Subject: Rental of North Side Home, Hoboken, Pa. On file, Record Room, S. G. O., 601 (North Side Home, Hoboken, Pa.) S.

(36) Letter from the Surgeon General to the Chief of Staff, April 15, 1918. Subject: General hospital at Pittsburgh, Pa. On file, Record Room, S. G. O., 601 (North Side Home, Hoboken, Pa.) S.

(37) First indorsement from War Department, A. G. O. to the Surgeon General, May 4, 1918. Subject: Approval of Secretary of War of lease of North Side Home, Hoboken, Pa., dated May 3, 1918. On file, Record Room, S. G. O., 601 (North Side Home, Hoboken, Pa.) S.

(38) Second indorsement from War Department, A. G. O., to the Surgeon General, August 26, 1918. Subject: Designation of general hospital. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 24) K.

(39) Shown on weekly bed report. On file, Record Room, S. G. O., 632 (U).

(40) Letter from the commanding officer, General Hospital No. 24, to the Surgeon General, August 2, 1918. Subject: Closing of hospital. On file, Record Room, S. G. O., 602–1 (Gen. Hosp. No. 24) K.

(41) Report from Maj. E. L. Ruffner, M. C., to the Surgeon General, May 12, 1917. Subject: Report on use of Fort Benjamin Harrison as a general hospital. On file, Record Room, S. G. O., 174571–11 (Old Files).

(42) Letter from the Surgeon General to The Adjutant General, May 18, 1917. Subject: Use of permanent barracks of certain posts for hospital purposes. On file, Record Room, S. G. O., 632 (General).

(43) Letter from the Surgeon General to The Adjutant General, May 23, 1917. Subject: Authority for use of barracks at Forts McPherson, Oglethorpe, and Benjamin Harrison for base hospitals. On file, Mail and Record Division, A. G. O., 2604162 (Old Files Section). *And*: Letter from the Surgeon General to The Adjutant General, November 7, 1917. Subject: Use of posts as general hospitals. On file, Record Room, S. G. O., 680.3 (General).

(44) Letter from The Adjutant General to the commanding general, Central Department, June 23, 1917. Subject: Use of permanent barracks at certain posts for general or base hospital accommodations in connection with post hospitals. On file, Record Room, S. G. O., 176795 (Old Files).

(45) Telegram from The Adjutant General to the commanding general, Central Department, October 15, 1917. Subject: Use of certain posts as winter quarters. On file, Record Room, S. G. O., 176795 (Old Files).

(46) Letter from the Surgeon General to the department surgeon, Central Department, June 30, 1917. Subject: Plans for base hospitals at certain posts. On file, Record Room, S. G. O., 176795 (Old Files).

(47) Second indorsement from War Department, A. G. O., to the Surgeon General, September 21, 1918. Subject: Designation of certain general hospitals. On file, Record Room, S. G. O., 322.3 (Gen. Hosp.) K.

(48) Third indorsement from War Department, A. G. O., to the commanding general, Central Department, October 26, 1918. Subject: Transfer of buildings at Fort Benjamin Harrison to the Medical Department. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 25) K.

(49) Letter from the Surgeon General to Capt. H. W. Cutler, Sanitary Corps, October 19, 1918. Subject: Construction program General Hospital No. 25. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 25) K.

(50) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(51) Letter from the Surgeon General to The Adjutant General, August 4, 1919. Subject: Abandonment of General Hospital No. 25. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 25) K.

(52) First indorsement from War Department, A. G. O., to the Surgeon General, August 8, 1919. Subject: Abandonment of General Hospital No. 25 approved. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 25) K.

(53) General Order No. 17, Headquarters, General Hospital No. 25, Fort Benjamin Harrison, Ind., August 31, 1919. Copy on file, Record Room, S. G. O., 323.72–3 (Gen. Hosp. No. 25) K.

(54) Letter from the Surgeon General to the Chief of Staff, July 2, 1917. Subject: Use of permanent buildings for hospital purposes. On file, Mail and Record Division, A. G. O., 632 (Misc. sec.)

(55) Telegram from The Adjutant General to the commanding general, Central Department, July 3, 1917. Subject: Use of permanent buildings at Fort Des Moines for base or general hospital purposes authorized. On file, Record Room, S. G. O., 176795 (Old Files).

(56) Telegram from the Surgeon General to the department surgeon, Central Department, July 3, 1917. Subject: Plans for base hospital at Fort Des Moines, Iowa. On file, Record Room, S. G. O., 176795 (Old Files).

(57) First indorsement from the Surgeon General to the officer in charge of cantonment construction, Quartermaster Department, September 11, 1917. Subject: Conversion and construction of buildings at Fort Des Moines, Iowa. On file, Record Room, S. G. O., 176796–134 (Old Files).

(58) Telegram from The Adjutant General to commanding general, Central Department, October 15, 1918. Subject: Use of certain posts. On file, Record Room, S. G. O., 176795 (Old Files).

(59) Letter from the Surgeon General to The Adjutant General, November 7, 1917. Subject: Use of posts as general hospitals. On file, Record Room, S. G. O., 680.3 (General).

(60) Memorandum from the Surgeon General to The Adjutant General, January 4, 1918. Subject: Hospital at Fort Des Moines, Iowa. On file, Record Room, S. G. O., 322.3 (Hospital, Ft. Des Moines) C.

(61) Letter from The Adjutant General to the Surgeon General, March 14, 1918. Subject: General hospitals. On file, Record Room, S. G. O., 323.7–5 (General).

(62) Letter from the Surgeon General to The Adjutant General, May 31, 1918. Subject: Request that Fort Des Moines be designated a general hospital. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 26) K.

(63) Letter from the Acting Surgeon General to The Adjutant General, September 11, 1918. Subject: Designation of general hospitals. On file, Record Room, S. G. O., 322.3 (General Hospitals) K.

(64) First indorsement from War Department, A. G. O., to the Surgeon General, September 21, 1918. Subject: Designation of general hospitals. On file, Record Room, S. G. O., 322.3 (General Hospitals) K.

(65) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 U.

(66) Letter from the Surgeon General to The Adjutant General, September 8, 1919. Subject: Discontinuance of General Hospital No. 26. On file, Record Room, S. G. O., 680.1–1 (Gen. Hosp. No. 26) K.

(67) Letter from The Adjutant General to the Surgeon General, September 13, 1919. Subject: Discontinuance of General Hospital No. 26, Fort Des Moines, Iowa. On file, Record Room, S. G. O., 323.72–3 (Gen. Hosp. No. 26) K.

(68) Letter from Adjutant General to the Surgeon General, July 12, 1918. Subject: Permanent buildings for use of Medical Department at Fort Douglas, Utah. On file, Record Room, S. G. O., 680.2 (Ft. Douglas) N.

(69) Third indorsement from War Department, A. G. O., to Surgeon General, August 3, 1918. Subject: Permanent buildings at Fort Douglas, Utah, assigned to Medical Department. On file, Record Room, S. G. O., 680.2 (Ft. Douglas) N.

(70) First indorsement from War Department, A. G. O., to the Surgeon General, September 21, 1918. Subject: Designation of general hospitals. On file, Record Room, S. G. O., 322.3 (General Hospitals) K.

(71) Letter from Chief of Construction Division to the Surgeon General, October 26, 1918. Subject: Construction authorized at Fort Douglas, Utah. On file, Record Room, S. G. O., 652 (Gen. Hosp. No. 27) K.

(72) Letter from Surgeon General to The Adjutant General, June 18, 1919. Subject: Abandonment of General Hospital No. 27, Fort Douglas, Utah. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 27) K.

(73) Letter from the Surgeon General to commanding officer, General Hospital No. 27, July 15, 1919. Subject: Abandonment of hospital. On file, Record Room, S. G. O., 680.1–1 (Gen. Hosp. No. 27) K.

(74) Telegram from Foster, Fort Douglas, Utah, to the Surgeon General, September 3, 1919. Subject: Closing of General Hospital No. 27. On file, Record Room, S. G. O., 323.72–3 (Gen. Hosp. No. 27) K.

(75) Letter from The Adjutant General to commanding general Central Department, August 7, 1918. Subject: Assignment for the use of the Medical Department of permanent post at Fort Sheridan, and Fort Benjamin Harrison. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 28) K.

(76) Letter from the Surgeon General to Construction Division, War Department, September 7, 1918. Subject: Hospital construction at Fort Sheridan, Ill. On file, Record Room, S. G. O., 652 (Ft. Sheridan) N.

(77) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 U.

(78) Report of special sanitary inspection, General Hospital No. 28, Fort Sheridan, Ill., made by Lieut. Col. H. B. McIntyre, M. C., December 17, 1918. On file, Record Room, S. G. O., 721 (Gen. Hosp. No. 28) K.

(79) Report of sanitary inspection of General Hospital No. 28, Fort Sheridan, Ill., March 7, 1919, by Col. W. P. Chamberlain, M. C. On file, Record Room, S. G. O., 721 (Gen. Hosp. No 28) K.

(80) Letter from chief educational officer, General Hospital No. 28, to the Surgeon General, April 22, 1919. Subject: Sketch of educational service. On file, Record Room, S. G. O., 353.91–1 (Gen. Hosp. No. 28) K.

(81) Letter from the Surgeon General to The Adjutant General, May 18, 1917. Subject: Use of permanent barracks of certain Army posts for hospital purposes. On file, Record Room, S. G. O., 632 (General).

(82) Telegram from The Adjutant General to commanding general, Central Department, October 15, 1917. Subject: Use of certain posts. On file, Record Room, S. G. O., 176795 (Old Files).

(83) Letter from Surgeon General to The Adjutant General, November 7, 1917. Subject: Use of posts as general hospitals. On file, Record Room, S. G. O., 680.3 (General).

(84) Letter from commanding officer, U. S. Army Hospital, Fort Snelling, Minn., to the Surgeon General, August 14, 1918. Subject: Transfer of post to Medical Department. On file Record Room, S. G. O., 323.7 (Ft. Snelling) N.

(85) Letter from Chief of Construction Division to the Surgeon General, November 1, 1918. Subject: Fort Snelling, Minn., project. On file, Record Room, S. G. O., 652 (Ft. Snelling) N.

(86) First indorsement from War Department, A. G. O., to Surgeon General, September 21, 1918. Subject: Designation of general hospital. On file, Record Room, S. G. O., 322.3 (General Hospital) K.

(87) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 U.

(88) Telegram from the Surgeon General to the commanding officer, General Hospital No. 29, Fort Snelling, Minn., June 6, 1919. Subject: Closing of hospital. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 29) K.

(89) Letter from the Surgeon General to The Adjutant General, June 18, 1919. Subject: Abandonment of General Hospital No. 29, Fort Snelling, Minn. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 29) K.

(90) Letter from commanding officer, General Hospital No. 29, to the Surgeon General, August 4, 1919. Subject: Closing of hospital. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 29) K.

CHAPTER XXVIII.

GENERAL HOSPITALS, NOS. 30, 31, 32, 33, 34, 35, 36, 37, 38, AND 40.

GENERAL HOSPITAL NO. 30, PLATTSBURG BARRACKS, N. Y.

Plattsburg Barracks is located on the west shore of the northern portion of Lake Champlain, and within 1 mile of the city of Plattsburg.

The plan and distribution of its buildings was that of a typical Army regimental post; there was a large parade with the officers' quarters along one side, facing the lake, the hospital and barracks in continuation along another, with the administration building at the southwest corner.

The country along the lake front, north and south of the post, and for 15 miles west to the foothills of the Adirondacks, forms a lowland sloping gently toward the lake. The soil is uniformly sandy, affording good drainage and freedom from dust and mud. The roads throughout the reservation were of macadam and were connected with the well-maintained roads of the State; the New York-Albany-Montreal highway passed just without the gates.

The Surgeon General desired to use this post for general hospital purposes, for in addition to the permanent post buildings, 35 temporary barracks had been added from time to time for the training camps which had been conducted at this station. In June, 1917,[1] authority of the War Department was given to use the permanent buildings of the post; but, not unlike Fort Benjamin Harrison, Fort Des Moines, Fort Sheridan, and others, the buildings, being used for other purposes, were acquired very slowly.

During the summer, fall, and winter of 1917 the hospital operated as a post hospital; but in the spring and summer of 1918 additional space became available, and some alteration and renovation, to adapt the buildings for hospital purposes, were authorized.

The question of the establishment of a general hospital was again brought up and authority was given to use certain additional temporary buildings;[2] but they were not then made available, because of the local activities requiring their use.

On September 21, 1918, the Secretary of War designated this station as General Hospital No. 30.[3] Prior to this time, the Surgeon General had requested (in April, in August, and on September 16 and 20) a total of over $200,000 for alterations and repair work necessary for the adaptation of the post to general hospital purposes.[4] The work called for in April was completed in September, and part of that called for in August and September was finished in February and March; but a portion of the work was never completed, as construction and alteration were discontinued in March, 1919. A maximum capacity of 1,200 beds had been provided, including reconstruction facilities and all activities essential to general hospital work. The total cost was $225,000.

In the fall of 1918 it became imperative to send mental and nervous cases and epileptics to this hospital for treatment.[5] Though unsatisfactory, the facilities for their treatment were better there than elsewhere. So long as troops were kept at this place for training it was impossible to prevent intermingling of the ordinary sick with the mental cases; and this condition, though relatively temporary, was unavoidable. The department inspector recommended that a decision be reached by the War Department as to the future of this post; that it be used either as a general hospital with no other activities to interfere, or, that another location be selected for the treatment of mental cases; and that construction and alterations already requested, looking to a betterment for the winter, be expedited.[6]

Opening as a general hospital in September, 1918, with a capacity of approximately 800 and with 400 sick, the activity of the hospital greatly increased and the number of sick rose during the fall and early winter of this year, reaching over 900. In February a decline began, continuing until May, 1919, when the number of sick fell to 513.[7] Much of this decline was due to the fact that better provisions were being made elsewhere for mental cases. After May, 1919, no more patients of this class were sent to this hospital, which was reorganized in that month for general medical and surgical cases only. Its activity now increased; and by June, about 1,000 medical and surgical cases were being treated. However, the final decline began at this point and continued until the closing of the hospital. On September 3, 1919,[8] when the sick had dropped below 700, its discontinuance was recommended to take effect September 30.

When the hospital closed on October 10 the remaining sick were sent by hospital train to General Hospital No. 41, Fox Hills, N. Y.[9]

Statistical data, United States Army General Hospital No. 30, Plattsburg Barracks, N. Y., from September, 1918, to October 10, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.														
			By transfer.	Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1918.																	
September	415	94	167	1	677	139	.....	45	.....	.....	.....	7	4	482	.....	13,284	.....
October	482	142	327	3	954	127	2	107	.....	.....	2	8	21	687	.....	18,111	.....
November	687	22	258	10	977	129	1	110	.....	.....	3	13	30	691	.....	21,257	.....
December	691	77	347	12	1,127	310	1	169	.....	.....	2	4	14	627	.....	21,127	.....
1919.																	
January	627	65	323	13	1,028	345	1	232	.....	.....	5	27	14	403	1	16,528	6
February	404	53	232	13	702	243	.....	105	.....	.....	7	29	15	303	.....	8,689	.....
March	303	36	392	11	742	204	.....	42	1	.....	.....	27	31	436	1	9,502	21
April	437	30	170	30	667	249	.....	44	.....	.....	.....	19	63	292	.....	8,228	.....
May	292	25	144	52	513	243	.....	53	.....	.....	.....	11	30	176	.....	6,555	.....
June	176	15	794	30	1,015	161	.....	40	.....	.....	.....	5	30	779	.....	13,593	.....
July	779	25	545	24	1,373	424	.....	41	.....	.....	.....	15	65	828	.....	29,363	.....
August	828	27	27	57	939	170	2	111	.....	.....	.....	15	42	599	.....	20,775	.....
September	599	20	20	36	675	110	1	156	.....	.....	.....	350	21	37	.....	12,021	.....
October	37	.....	.....	.....	37	.....	.....	34	.....	.....	.....	3	.....	.....	.....	3,091	.....

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 30, Plattsburg Barracks, N. Y., from September, 1918, to October 10, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
September	64	50	20	134	March	11	54	20	85
October	30	50	20	100	April	11	48	16	75
November	23	54	20	97	May	11	48	16	75
December	11	54	20	85	June	25	60	16	101
1919.					July	25	58	14	97
January	11	54	20	85	August	26	57	12	95
February	11	54	20	85	September	26	56	13	95

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.		
1918.									
September	31	5	4	40	249	76	325	56	4
October	36	4	4	44	348	70	418	54	4
November	45	6	4	55	370	87	457	45	2
December	45	9	6	60	571	182	753	40	2
1919.									
January	40	7	9	56	541	155	696	40	2
February	35	5	11	51	475	144	619	40	....
March	32	5	17	54	463	136	599	36	....
April	30	6	18	54	442	112	554	37	....
May	24	5	13	42	355	104	459	35	....
June	45	6	4	55	320	77	397	74	....
July	54	5	11	70	409	38	447	111	....
August	49	5	10	64	371	41	412	125	....
September	30	5	9	44	338	36	374	74	....

GENERAL HOSPITAL NO. 31, CARLISLE, PA.

Carlisle Barracks was one of the oldest military posts in existence in the United States, having been established sometime prior to the Revolutionary War. It was garrisoned during the Revolution and at times was used as a prison for British prisoners. The barracks were built in 1777, chiefly by Hessian prisoners. They were occupied during the War of 1812. In 1863 all but one or two buildings were burned by the Confederates on the night of July 1, just before the Battle of Gettysburg. Between 1865 and 1870 the barracks were rebuilt and occupied as a Cavalry school. Subsequent to this time Indian prisoners were kept there, then later it became a school for Indian prisoners, and still later it became the Carlisle Indian School.

On July 9, 1918, the Secretary of War requested the Secretary of the Interior to approve the turning back of Carlisle Barracks to the War Department, citing the need by the Army of an institution of this character for the rehabilitation and reeducation of sick and wounded, to which the Secretary of the Interior agreed on July 16.[10]

Carlisle Barracks was situated on the outskirts of the town of Carlisle, in the beautiful Cumberland Valley, 19 miles west of Harrisburg, with which city there were train, trolley, and excellent road connections. The institution, as transferred from the Department of the Interior, consisted of 308 acres of excellent farm land and 50 buildings. Farm No. 1, adjoining the campus, or main site, on the north and east, contained 110 acres. Farm No. 2, about three-fourths of a mile distant, contained 175 acres. The school section comprised 23 acres and 41 buildings, the latter consisting of barracks, quarters, administrative and school buildings, storehouses, power plant, etc.[11]

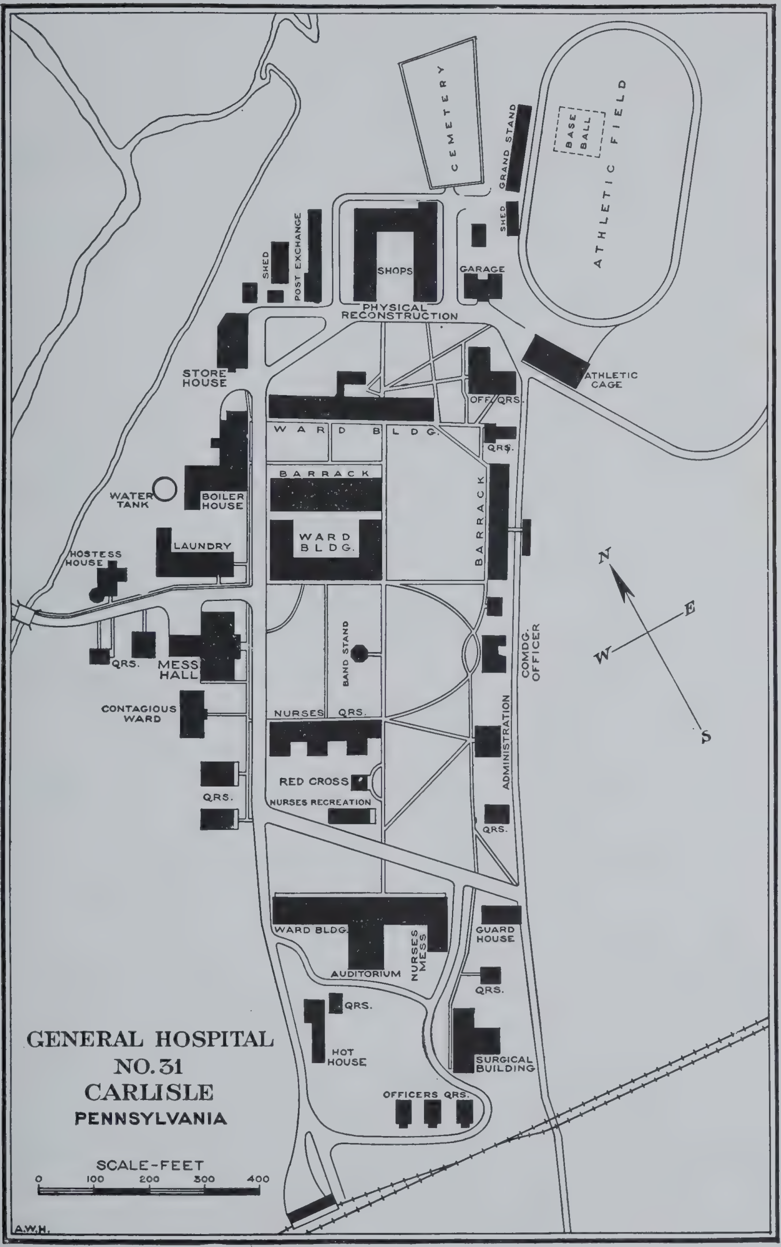
CEMETERY
GRAND STAND
BASE BALL
ATHLETIC FIELD
SHED
SHED
POST EXCHANGE
SHOPS
GARAGE
PHYSICAL RECONSTRUCTION
STORE HOUSE
ATHLETIC CAGE
OFF. QRS.
WARD BLDG.
QRS.
BARRACK
WATER TANK
BOILER HOUSE
BARRACK
LAUNDRY
WARD BLDG.
HOSTESS HOUSE
N
E
W
S
BAND STAND
QRS.
MESS HALL
COMDG. OFFICER
CONTAGIOUS WARD
NURSES QRS.
ADMINISTRATION
RED CROSS
QRS.
NURSES RECREATION
QRS.
WARD BLDG.
GUARD HOUSE
NURSES MESS
AUDITORIUM
QRS.
QRS.
GENERAL HOSPITAL
NO. 31
CARLISLE
PENNSYLVANIA
HOT HOUSE
SURGICAL BUILDING
OFFICERS QRS.
SCALE-FEET
0
100
200
300
400
A.W.H.

FIG. 187.

A rapid survey of the buildings, which were old, was made by representatives of the Construction Division and the Surgeon General's Office, to determine repairs and alterations necessary to restore them to properly care for the sick. It was estimated that $180,000 would be required to do this work and that 800 sick could be accommodated.[12]

In the meantime, negotiations had been initiated with the Department of the Interior to effect the transfer of the real estate and a portion of the school equipment. The continuation of a lease of a 40-acre tract of land which was necessary for the operation of this property was also secured.

Funds necessary for the conversion were requested on August 31 and were allotted on October 2. The major portion of this money was required for under the headings of carpentry, masonry and repair work, plumbing and heating, repairing, and fire protection. This work was completed in March, 1919. Some other miscellaneous improvements were found necessary, which increased the total cost of this project to $194,000 and produced a maximum capacity of 900 beds.

On August 15, 1918, it was recommended that the designation, General Hospital No. 31, be given. This was approved in the following month.[13]

Although the alteration work was not completed until March, 1919, some local sick were treated from the very beginning when the hospital was opened, in October, 1918. The capacity of the hospital reached 500 in February, 1919, and by this time about 380 sick were under treatment. In another month the capacity rose to 800 and the number of patients to 650. By the following August the maximum capacity of 900 was reached, though at that time there were 919 sick in the hospital. Throughout the period from August, 1919, to the end of the year the number of sick gradually diminished.[14]

Statistical data, United States Army General Hospital No. 31, Carlisle, Pa., from September 21, 1918, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources. By transfer.	From other sources. Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1918.																	
September	......	18	......	......	18	13	1	......	......	......	......	......	......	2	2	23	79
October	4	67	......	......	71	52	2	......	......	......	......	......	......	15	2	316	40
November	17	20	......	......	37	33	......	......	......	......	......	......	......	4	......	236	......
December	4	50	38	9	101	43	......	......	......	7	......	......	13	38	......	951	......
1919.																	
January	38	70	81	3	192	61	......	......	......	......	......	1	23	102	5	1, 483	25
February	107	55	318	69	549	40	1	......	......	......	......	7	108	388	5	6, 918	140
March	393	40	434	187	1, 054	81	1	1	......	......	......	1	328	642	......	16, 639	......
April	642	39	201	195	1, 077	33	1	6	......	......	......	19	427	591	......	18, 759	......
May	591	26	315	172	1, 104	29	......	8	......	......	......	17	300	750	......	19, 613	......
June	750	31	406	14	1, 201	149	3	8	......	......	......	16	137	888	......	23, 781	......
July	888	27	......	390	1, 305	131	......	95	......	......	......	8	152	919	......	27, 873	......
August	919	54	93	......	1, 066	55	......	52	......	......	......	25	200	734	......	25, 827	......
September	734	46	74	......	854	63	2	43	......	......	......	8	93	645	......	20, 167	......
October	645	57	295	3	1, 000	53	1	53	......	......	......	14	62	817	......	18, 921	......
November	817	47	205	5	1, 074	109	......	83	......	......	......	14	83	785	......	22, 462	......
December	785	65	47	3	900	110	1	70	......	......	......	10	48	661	......	19, 984	3

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 31, Carlisle, Pa., from September 21, 1918, to Decembeer, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
September	14	15	16	45	April	14	15	16	45
October	14	15	16	45	May	14	15	16	45
November	14	15	16	45	June	14	15	16	45
December	14	15	16	45	July	14	15	16	45
					August	178	11	12	201
1919.					September	179	12	13	204
January	14	15	16	45	October	96	77	17	190
February	14	15	16	45	November	86	85	10	181
March	14	15	16	45	December	84	88	10	182

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
September	5	4	1	10	124	16	140	....
October	5	5	1	11	143	22	165	....
November	7	4	1	12	376	22	398	2
December	23	8	1	32	568	32	600	2
1919.								
January	24	7	1	32	443	30	473	12
February	27	9	2	38	414	46	460	49
March	25	8	6	39	389	45	434	49
April	26	8	7	41	376	49	425	56
May	25	8	7	40	373	47	420	50
June	26	9	8	43	368	42	410	48
July	31	8	11	50	367	5	372	58
August	27	8	9	44	399	4	403	73
September	23	8	9	40	460	4	464	67
October	21	5	7	33	497	4	501	63
November	23	5	7	35	464	8	472	60
December	25	5	7	37	452	11	463	61

GENERAL HOSPITAL NO. 32, CHICAGO, ILL.

The property acquired for General Hospital No. 32 was located southeast of the center of Chicago, near the lake, and at the corner of Drexel Boulevard and East Forty-seventh Street. It consisted of the Cooper-Monatah Hotel, leased at $52,500 per year, and the Stillman Apartments, leased at $3,000 per year. Near-by residences, which were covered by nominal leases at $1 per year, were secured and used as nurses' quarters.[15]

This group was one of the first secured for hospital purposes under the new authority, dated September 21, 1918, from the Secretary of War, empowering a board constituted by a representative from the General Staff, the Construction Division, and the Surgeon General's Office to select properties for hospital purposes, to approve the lease, and to authorize the expenditure of funds. The Cooper-Monatah Hotel was leased in October, 1918;[16] and it was desired to alter the building and occupy it by December 1; but, due to delay in securing definite approval—an approval which had now become unnecessary—the date of completion and occupancy was deferred until January 7, 1919. The board, or hospital commission as it was called, estimated the capacity of the hotel as a hospital at 625 beds.[16] As completed, the actual capacity was 530.[15] The lease included, in addition to the rental, a fixed sum of $92,980 for the alteration work and $24,042 for the restoration of the property after the termination of the lease.[16]

This building, which was then under construction, was an L-shaped, six-story, mezzanine and basement structure of reinforced concrete floors. The exterior walls were of brick, trimmed with limestone and terra cotta. When it was leased, all walls and floors were in place, the exterior had been finished and the interior partitions installed to and including the fourth floor. No finished floors, plastering or decorating had been started, and no plumbing, heating, or lighting had been installed.

The conversion of this hotel was accomplished in the following manner:[17] Complete alteration plans were hurriedly prepared, utilizing the existing structure as far as possible, changing it only where it was necessary to do so, and finishing the incomplete work to best suit the needs of a hospital. Since the fifth and sixth floor partitions were not in place, it was possible to provide comparatively large wards on these floors—70 to 80 bed capacity. The remainder of the building, with the exception of the mezzanine floor and a portion of the first floor, being already subdivided into rooms, was allowed to remain so, each room accommodating two to five beds. The basement was arranged so as to provide for the cafeteria, the pharmacy, kitchens, storerooms, etc. The original plans contemplated a capacity of 642 beds. It was necessary, however, to provide additional storage space on the first floor and to install eye, ear, nose, throat and dental facilities on the fourth floor, and these installations reduced the bed capacity to 531. On the first floor, with little alteration, were installed the receiving department, the offices, the laboratory, the mortuary, and the quartermaster storerooms. On the mezzanine floor two large wards and treatment rooms were installed. The second and third floors, containing about 40 rooms each, were allowed to remain subdivided as originally intended for the hotel. These rooms had adjoining baths and were converted into small

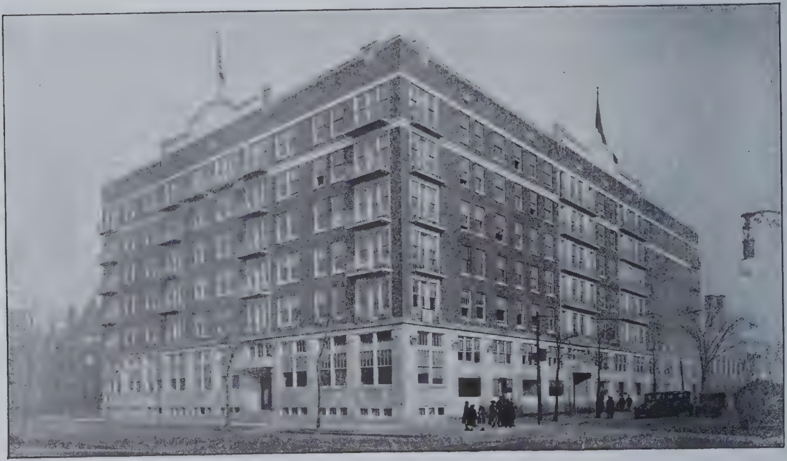

FIG. 188.—General Hospital No. 32, Chicago, Ill.

wards with two to four beds each, and some of them were fitted up for ward offices, serving pantries, utility rooms and treatment rooms. The isolation section was installed in a portion of the east wing of the second floor. The fifth floor was subdivided into small wards accommodating from 5 to 14 beds each, with the necessary utility and treatment rooms. On the sixth floor were installed a 45-bed and a 75-bed ward, with the necessary ward facilities adjoining. Here also were installed the X-ray and the operating departments. The alteration work was completed January 7, 1919, at a total cost of $108,000.

This hospital was designated "General Hospital No. 32" on December 5, 1918;[18] and it treated general medical and surgical cases. It opened with a capacity of 500 beds on January 7,[19] the day it was completed, the assembling of the personnel and the organization of the hospital having been accomplished in the meantime; and February 7, 425 sick were being cared for.[20] From this day until May 24, 1919, the sick constantly under treatment averaged 450.[20] Subsequent to May 24 a rapid reduction in the number of cases treated occurred;[20] transfers of sick to this hospital were then withheld and transfers of sick from it, incident to the closing period, were authorized.

On April 15, 1919,[21] the Surgeon General recommended its abandonment, to be effective August 1, 1919. This recommendation was approved by the Secretary of War on May 5, 1919.[22] Later, May 12,[23] the Surgeon General was advised that the United States Public Health Service desired the hospital upon its evacuation by the Army, and, therefore, new arrangements were made and the property was transferred to that service June 15, 1919.[24] Prior to this date the remaining sick, requiring further treatment, were sent to General Hospital No. 28, Fort Sheridan, Ill.

Statistical data, United States Army General Hospital No. 32, Chicago, Ill., from December 4, 1918, to June 15, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1919.																	
January	2	15	155	10	182	11	.....	.....	.....	.....	.....	.....	.....	171	.....	819	.....
February	171	17	395	36	619	170	1	10	.....	.....	.....	4	.....	434	.....	9,352	.....
March	434	33	128	28	623	131	1	21	.....	.....	.....	27	3	440	.....	4,515	.....
April	440	38	253	43	774	139	.....	15	.....	113	.....	29	8	464	6	14,082	56
May	470	23	59	52	604	112	1	.....	.....	112	.....	18	16	333	12	12,976	236
June	345	1	9	2	357	73	.....	.....	.....	76	.....	203	5	.....	.....	1,686	42

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 32, Chicago, Ill., from December 4, 1918, to May, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
December	16	3	1	20	303	4	307	62
1919.								
January	25	7	1	33	259	5	264	64
February	32	6	2	40	261	10	271	79
March	34	6	2	42	293	12	305	102
April	34	7	2	43	232	11	243	89
May	27	7	2	36	208	8	216	91

GENERAL HOSPITAL NO. 33, FORT LOGAN H. ROOTS, ARK.

Fort Logan H. Roots, on the north bank of the Arkansas River, 3 miles from the town of Little Rock, was situated on an elevation known as Big Rock Mountain. The post was first occupied in 1896 and last garrisoned by Regular troops in 1913, a battalion of the Ninth Infantry being then stationed there. From May to September, 1917, it was used for a citizens' training camp, and from October to November, 1917, the First and Second Regiments of the Arkansas National Guard were encamped on the reservation.[25]

The general hospital, which was finally established at Fort Logan H. Roots, had its beginning as early as May, 1917, when request was made by the Surgeon General to place the permanent barracks at the disposal of the Medical Department for general and base hospital purposes.[26] This request was repeated in May, and again in June; and on June 23, the Secretary of War directed the department commander concerned to turn over to the Medical Department as many barracks as might be needed for base and general hospital use.[27] In conformity with this order, the Surgeon General directed the department surgeon to have the post surgeon develop the base hospital at this station and to wire for authority for the construction of any necessary buildings.[28] In short, the early history of this hospital is much the same as that of the general hospitals established at Fort Sheridan, Fort Benjamin Harrison, and others, except that the permanent buildings were made available to the Medical Department about a year earlier.

In November, 1917, personnel for a larger hospital was sent to this station and instructions were given outlining the construction work to be done locally. The permanent buildings of this battalion post utilized by the Medical Department consisted chiefly of 12 sets of officers' quarters, a large bachelor officers' building with kitchen and mess hall, 4 company barracks, the post hospital, the post administration building, the post exchange, storehouses, stables, shops, etc.[25] In addition, thereto, and immediately adjoining, were 30 temporary company barracks with mess halls, kitchens, etc.[25] The post hospital had been enlarged in May, 1917, by the addition of four temporary buildings, and by a fifth building in August of that year.

In December, 1917, in conformity with the post surgeon's request, funds were approved for the renovation and alteration of the permanent buildings principally, but in part also the temporary buildings of the post, to prepare them for use for general hospital purposes.[29] This work was begun and carried on through the following winter and spring and was completed about the middle of the summer of 1918.

On January 11, 1918, the Surgeon General recommended that this hospital be designated a general hospital.[30] It was increasing in size, and with the alterations then under way gave promise of a satisfactory development, and was not only caring for the sick of the immediate command but for many sick from Camp Pike as well. There was need for more general hospital space, space which would be under the control of the War Department and which could be manipulated, officered, and administered from central control. There is no record of any action or further recommendation in the above matter until October 1, 1918, when Fort Logan H. Roots was designated "General Hospital No. 33."[31]

From the beginning of 1918 until October of that year between 200 and 500 sick were constantly in hospital; and then in October, after its designation as a general hospital made it available for general use, many cases were sent there for treatment, the number rising in that month to 784.[32] This soon fell, however, and from December, 1918, until its discontinuance as a general hospital in January, 1919, the sick remained below 500.[32] On February 24, 1919, the hospital was discontinued as a general hospital and it reverted to a post hospital status.[33]

Statistical data, United States Army General Hospital No. 33, Fort Logan H. Roots, Ark., from October, 1918, to January, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
October	327	7	450	......	784	433	1	4	.....	.....	.....	.....	.....	346	.....	12,936	.....
November	346	15	222	......	583	480	4	5	.....	.....	.....	2	2	90	.....	4,486	.....
December	90	96	254	......	440	141	12	2	.....	.....	.....	.....	1	282	2	9,291	124
1919.																	
January	284	48	157	......	489	86	1	.....	.....	18	.....	.....	122	259	3	8,587	55

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
October	2	20	15	37	January	2	19	8	29
November	2	20	15	37					
December	2	20	11	33					

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's office (name of hospital).

Statistical data, United States Army General Hospital No. 33, Fort Logan H. Roots, Ark., from October, 1918, to January, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
October	31	4	2	37	343	51	394	43
November	31	4	2	37	342	54	396	49
December	28	3	2	33	335	54	389	47
1919.								
January	27	3	3	33	334	56	390	42

GENERAL HOSPITAL NO. 34, EAST NORFOLK, MASS.

The Norfolk State Hospital, Massachusetts, was offered to the Government for use as an Army hospital in August, 1918.[34] There followed correspondence between the Surgeon General's Office and the superintendent of the institution. Then, in October, 1918,[35] the place was surveyed by a board of officers composed of representatives from the Construction Division, the Real Estate Service, and the Surgeon General's Office. This board reported favorably upon the potential qualities of the institution as a military hospital, and a lease was executed, effective October 1, 1918, and until the close of that fiscal year, at an annual rental rate of $1.[36]

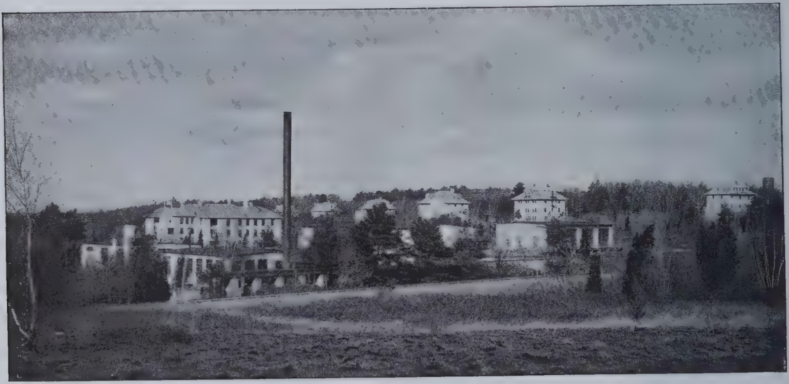

FIG. 189.—Portion of General Hospital No. 34, East Norfolk, Mass.

The hospital was situated at East Norfolk, 20 miles southwest of Boston, having been established by the State of Massachusetts in 1910 as an institution for the care and treatment of inebriates and drug addicts. It consisted of two groups of buildings 2 miles apart, the south group comprising 6 cottages, 2 hospital buildings, a mess hall, an administration building, a powerhouse, a laundry service building, industrial shops and a garage; and the north group, which consisted of 6 cottages and an assembly building in which there was a mess hall and kitchen. One quarter mile distant from the north group were a dairy farmhouse and barns for horses.[35]

The institution was equipped with hydrotherapeutic and electrotherapeutic apparatus and with shops for occupational therapy. Its water supply, sewage-disposal plant, and electric light and power plant were very satisfactory. The water was obtained from a well on the grounds and was pumped to a large storage tank. The sewage passed through septic tanks and filter beds, the effluent ultimately discharging into a small stream.[35]

The grounds comprised 1,123 acres, partly utilized for farm, dairy, and poultry purposes.[35]

It was found that considerable remodeling, painting, improving the plumbing, electric lighting, and storage facilities were necessary,[36] and the work was at once started. The expenditure of the necessary funds for this remodeling and repair was approved by the Secretary of War on September 21, 1918, and on October 28, 1918, the work was begun. All alterations and repairs were completed on February 15, 1919, the total cost being $37,000.

The first of the personnel for this hospital arrived on October 7, 1918. On November 2, 1918, there were 203 patients;[37] and from that date until the date of closing, June 24, 1919, the number of patients ran from two to three hundred,[37] the hospital being maintained with a bed capacity of 340. It was found to be impossible to maintain the hospital at its capacity of 400 patients, as was done under State authority, because of the necessity for housing personnel.

In May, 1919, it was determined that the necessity for the maintenance of this hospital no longer existed and recommendation was made that it be discontinued.[38] The Surgeon General of the United States Public Health Service signified his intention of securing it for the care of war risk insurance patients. Early in June the assignment of patients to this hospital was discontinued, the patients then under treatment being disposed of by discharge and by transfer to the care of the Bureau of War Risk Insurance, and 104 cases requiring further treatment were transferred to General Hospital No. 43, at Hampton, Va. On June 24, 1919, the hospital was closed as an Army institution.[39]

Statistical data, United States Army General Hospital No. 34, East Norfolk, Mass., from November, 1918, to June 24, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
November	205	5	12	......	222	4	1	......	1	......	......	......	14	202	......	6,245	......
December	202	9	15	34	260	5	......	......	......	......	......	1	64	190	......	9,023	......
1919.																	
January	190	16	117	25	348	10	......	27	......	......	......	12	50	249	......	7,369	......
February	249	16	46	16	327	17	2	63	......	......	......	6	34	205	......	11,181	......
March	205	24	108	8	345	23	......	49	......	......	......	10	23	240	......	10,550	......
April	240	7	17	12	276	5	1	44	......	......	......	16	15	195	......	10,694	......
May	195	19	24	15	253	16	1	36	......	......	......	7	5	188	......	8,804	......
June	188	7	2	1	198	11	......	94	......	1	......	91	1	......	......	23,721	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's office (name of hospital).

Statistical data, United States Army General Hospital No. 34, East Norfolk, Mass., from November, 1918, to June 18, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1919.					1919.				
March	20	5	2	27	May	21	10	2	33
April	18	13	2	33	June	....	....	....	7

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
November	9	3	1	13	112	16	128	....
December	13	2	1	16	149	21	170	....
1919.								
January	15	4	3	22	206	23	229	33
February	21	5	3	29	215	27	242	10
March	16	5	3	24	241	29	270	10
April	17	3	3	23	229	29	258	14
May	13	5	2	20	209	24	233	13
June	2	....	....	2	7	....	7	....

GENERAL HOSPITAL NO. 35, WEST BADEN, IND.

General Hospital No. 35 consisted of the West Baden Springs and the Sutton Hotels at West Baden, Ind. The West Baden Springs Hotel was leased on September 28, 1918,[40] effective October 15, 1918, at $125,000 per year; and the lease included all the hotel buildings, a golf course, and 620 acres of farm land.[40] The Sutton Hotel was leased on September 30, 1918,[41] effective October 15, 1918, at $4,041 per year. During the first half month, however, a sum of $3,750 was spent, in addition to the rent proper, for the necessary improvement and alteration of this property.

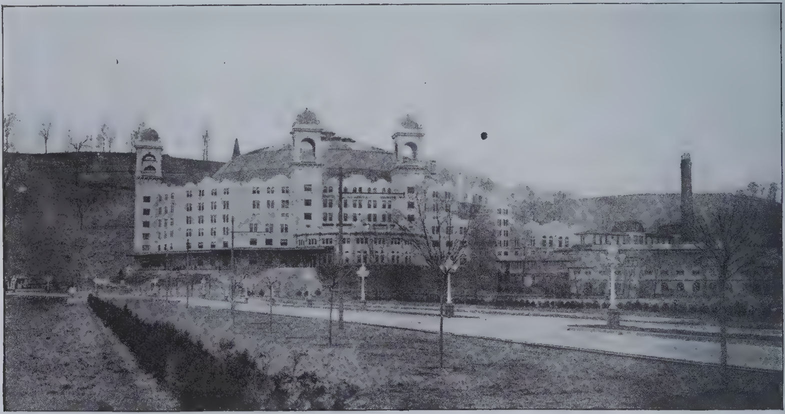

FIG. 190.—General Hospital No. 35, West Baden, Ind.

The West Baden Springs Hotel consisted of seven buildings, the hotel proper being used as the main hospital building. This was a six-story circular building constructed of brick, with a stucco exterior. It was curiously designed of four walls, concentrically arranged, the innermost encircling a dome-covered, marble-walled court, 200 feet in diameter and 135 feet high. The space between the two outermost and that between the two innermost walls was divided into rooms; and there was a circular hallway between the second and third concentric walls. There were 708 rooms, exclusive of the lobby, rotunda, ball rooms, card rooms, the kitchen, and dining room, and the rooms between the two inner walls looked out into the court on all floors.[40] This building, with its famous dome, formerly the main hotel, was constructed in 1890; and in it were located the majority of the hospital activities, such as wards for the sick and the rooms for the surgical, eye, ear, nose, throat, X-ray and dental work, treatment rooms, professional offices, etc. The original hotel dining room, three stories high, was connected with and structurally a part of the main hotel building. In addition to providing an 80-bed ward on an upper floor, it was retained for the mess hall of the hospital. The hotel kitchen, two stories in height, was a part of the dining room building. After being renovated it was continued in use as the hospital kitchen. Situated immediately to the rear of, but separated from the above structures, was a three-story brick building formerly used as the hotel garage and as quarters for employees. In adapting it to hospital purposes, the two upper stories were renovated, sufficient toilet facilities were installed, and it was used for barracks; the garage was continued in use as such. A three-story building, formerly used as a bath house, was converted into barracks on the third floor, the first and second floors being continued as baths. The power house and laundry were continued in use as such. The natatorium, a two-story brick building, had on the ground floor a swimming pool, running the full length of the building, and it was surrounded by rooms opening onto the pool. Its second floor was similarly arranged, the rooms opening onto a gallery looking down upon the pool. These rooms were used for the accommodation of Medical Department personnel.[42]

The alteration work began in October, 1918, and was completed in March of the following year. Throughout this period the buildings were occupied and operated as a hospital, the perfection of facilities causing no great amount of disturbance.

The Sutton Hotel was a U-shaped building covering an area of about 100 feet square. Its main portion had four stories and the two wings were three storied. Its outside walls were of concrete blocks, except on the fourth story mansard front sections. This building was situated about 1,500 feet from the West Baden Hotel and was used as nurses' quarters.[40] Prior to its occupancy it was necessary to increase the heating facilities, to thoroughly renovate the building, and to install additional toilet facilities, particularly on the top floor.

These two properties, as altered, and without the establishment of specialties, combined to make a very satisfactory general hospital for the treatment of general medical and surgical cases. Reconstruction facilities were not fully developed, but all other activities common to the best general hospitals were established. The total cost was $123,000.

The original estimate indicated that from 1,200 to 1,400 beds could be provided.[40] This estimate was based on the intention to house all personnel in temporary buildings to be constructed, a scheme, however, which was not followed out in the utilization of the property.

The designation "General Hospital No. 35" was made on October 24, 1918,[43] and the hospital opened on November 2, 1918, at a 500-bed capacity, and on November 23 [44] the first sick arrived, the bed capacity having been increased in the meantime to 650. By December 7, 1918, there were 400 sick under treatment;[45] and thereafter the number receiving treatment varied little until March, 1919, when, the alteration work having been completed, a maximum capacity of 800 beds was available.[45] A decline in the number of sick began in March, 1919, and continued until the hospital was abandoned.[45] This was due to the fact that from March 1 the transfer of sick to this hospital was discontinued; and on that date the Surgeon General recommended it be closed on May 15.[46] On March 12 [47] the Secretary of War authorized the abandonment of the hospital. The sick remaining under treatment were disposed of by discharge and transfer, at the rate of about 50 each week, until April 29, when the last sick had been moved out. On May 8, 1919, the hospital was closed;[48] and the transfer back to the lessor was effected under a new agreement between the latter and the Government, dated April 14, 1919, wherein both damages and improvements to the property were adjusted.[49]

Statistical data, United States Army General Hospital No. 35, West Baden, Ind., from October 14, 1918, to April 28, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
October	......	2	......	......	2	1	......	......	......	......	......	......	......	1	......	23	......
November	1	2	134	2	139	2	......	......	......	......	......	1	19	117	......	649	......
December	117	36	275	69	497	9	......	......	1	......	......	10	290	187	......	1,610	......
1919.																	
January	187	76	8	127	398	90	1	29	......	......	......	26	27	225	......	4,934	......
February	225	19	80	35	359	78	......	35	......	......	......	14	61	171	......	2,785	......
March	171	23	269	94	557	208	1	39	......	......	......	11	71	227	......	4,828	......
April	227	13	3	53	296	59	......	90	......	......	......	98	49	......	......	11,351	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
October	41	16	......	57	January	41	51	27	119
November	39	15	......	54	February	41	51	27	119
December	36	14	......	50	March	41	51	27	119
					April	26	23	6	55

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army General Hospital No. 35, West Baden, Ind., from October 14, 1918, to April 28, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
October	4	2	2	8	105	....	105	....
November	14	3	2	19	100	10	110	19
December	30	2	2	34	508	28	536	16
1919.								
January	34	4	5	43	366	27	393	28
February	35	3	4	42	303	28	331	38
March	26	2	5	33	274	28	302	33
April	5	2	5	12	67	24	91	19

GENERAL HOSPITAL NO. 36, DETROIT, MICH.

The Ford Hospital, the use of which, for military hospital purposes, was tendered the Government by the owner in the summer of 1918,[50] was a group of buildings centrally located in a 20-acre plot in the residential district of Detroit, and fronted on West Grand Boulevard between Hamilton Boulevard and Byron Street. There were the original Henry Ford Hospital, with a capacity of 65 beds, and a new one under construction, the estimated bed capacity of which was 500, all in private rooms.[51]

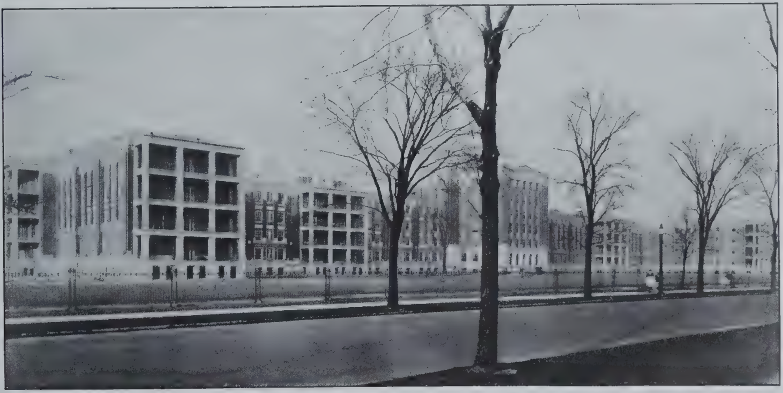

FIG. 191.—General Hospital No. 36, Detroit, Mich.

The property was inspected, preliminary negotiations were made, and on September 11, 1918, the Surgeon General recommended to the War Department that the hospital be leased.[52] On October 5, 1918, a nominal lease at $1 per year was prepared, effective at once, the lease to cover the old as well as the new hospital.[53]

There were six modern, permanent, brick buildings composing the group, as follows:[51] Ward building, surgical building, laboratory, service building, power house, garage, and the new building under construction. The patients' building of about 20,000 square feet of floor space was a three-story structure divided entirely into bedrooms, completely equipped and in running order. The surgical building, immediately adjoining, was modern and complete, and had about 14,000 square feet of floor space. These buildings were used by the Medical Department with little or no change.[54] The laboratory building contained three stories and an attic and had about 10,000 square feet of floor space. Some changes were made in this building and, in addition to those for the laboratory work, facilities for the eye, ear, nose, throat, dental, X-ray, and dispensary work were installed there. The service building, about 40,000 square feet of floor space, was also a three-story building containing, on the first floor, the main kitchen, bakery, and laundry; and on the second floor, the offices, auxiliary kitchen, and laboratory. The third floor was ideally equipped as to plumbing, lighting, etc., and was served by dumb-waiters from the kitchen below. Only minor alterations were necessary to adapt this building to Medical Department use. The power house, producing heat, light, and power for all buildings, was situated in the group, and was not altered in any way. The new building was altered by temporary partitions, plumbing, etc., so as to cover all general hospital activities not already provided for in the old hospital buildings in the rear. As originally planned it was to have private rooms for 500 sick; however, the majority of the permanent partitions were not in place and it was possible to provide over 20 wards in these open spaces, each with a capacity of 45 beds. The plumbing already in place did not adapt itself to this plan, however, and this caused the largest single item of expense. The small rooms already in place were utilized as they stood for the various smaller and more isolated activities of the hospital. Physical reconstruction shops and schools, some additional diet kitchens, and treatment rooms were installed in the building. In making all alterations and additions the chief aim was to find a stopping place that would permit the final construction of the Ford Hospital to be carried out without the necessity of tearing out a large part of the interior of the building and otherwise entailing considerable expense in effecting the readjustment of Government construction when the building should be abandoned as a Government hospital. The alteration work was completed late in March, 1919, and its total cost was $91,000.

After all work was done, a careful survey was made jointly by representatives of the War Department and the owner, and it was estimated that about $48,000 would be required to undo what had been done and to put the property in its original condition or in such condition that the owner would not suffer loss as a result of Army occupancy.[55]

The hospital was designated General Hospital No. 36 on October 24, 1918.[56] Organization having been completed and some space being available, it was opened for sick on February 1, 1919, with 43 patients and a capacity of 300.[57] By May 1, 1919, the capacity had been increased to 1,000, and at this time 659 sick were under treatment.[57] From this day until July 1, 1919, the capacity remained the same and the number of sick constantly under treatment did not vary materially.[57]

Recommendation was made, June 19, 1918, that the hospital be abandoned August 1, 1919.[58] No sick were sent to this hospital after July 1, 1919. On June 16, 1919, the United States Public Health Service requested that this hospital be turned over to that service.[59] As the owners greatly desired to reestablish this hospital, the United States Public Health Service withdrew its request for the property.[59] On August 10 [60] the hospital was abandoned, and on the 14th the property was turned back to the lessor. Between July 1 and 15, all sick requiring further treatment were transferred to General Hospital No. 28, Fort Sheridan, Ill.

Statistical data, United States Army General Hospital No. 36, Detroit, Mich., from November, 1918, to July, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
November	......	2	......	......	2	1	......	......	......	......	......	......	......	......	1	......	3
December	1	35	5	3	44	26	......	......	......	......	......	1	......	17	......	174	......
1919.																	
January	17	108	9	5	139	93	......	......	......	......	......	3	......	31	12	1,086	351
February	43	55	104	6	208	63	1	......	......	......	......	4	......	136	4	2,007	57
March	140	93	302	24	559	198	2	2	......	......	......	4	13	340	......	8,060	......
April	340	74	492	32	938	234	......	5	1	2	......	7	30	648	11	5,081	158
May	659	59	272	38	1,028	305	1	48	......	......	......	25	33	602	14	19,857	1,077
June	616	43	336	38	1,033	258	2	81	......	......	......	24	41	618	9	15,480	316
July	627	29	38	11	705	102	1	294	......	17	......	254	37	......	......	801	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
November	26	13	......	39	March	114	27	......	141
December	23	6	......	29	April	106	72	......	178
1919.					May	149	85	......	234
January	26	13	......	39	June	145	83	......	228
February	30	24	......	54	July	137	60	......	197

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
November	4	2	5	11	40	......	40	......
December	22	7	10	39	492	33	525	42
1919.								
January	27	8	8	43	496	58	554	46
February	32	9	8	49	501	59	560	53
March	40	8	8	56	588	56	644	51
April	42	8	6	56	500	39	539	63
May	41	8	5	54	500	37	537	76
June	40	8	4	52	484	32	516	76
July	28	4	2	34	0	......	......	74

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office, and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 37, MADISON BARRACKS, N. Y.

The military reservation of Madison Barracks, situated immediately adjacent to the town of Sackets Harbor and lying along the shore of Black River Bay in the northern part of Jefferson County, N. Y., had been owned and used by the Government as a military station since the early part of the nineteenth century. Prior to the declaration of war, it had been used as a regimental Infantry post, and when war was declared there were about 100 buildings on the reservation.[61]

During the early spring of 1917 an officers' training camp was established there and soon the military popultaion grew so that it was necessary to erect 20 additional buildings of very temporary construction. It was in this status when the post became converted to a general hospital.[61]

As early as May, 1917, the Surgeon General planned to create a general hospital at this station, and in that month the first request was made upon the War Department for the use of the permanent barracks.[62] On June 30, the Surgeon General, quoting the authority of the Secretary of War of June 23, directed the Surgeon of the Eastern Department to have plans prepared and to call for the construction of additional temporary buildings, if required, in order to create a base or general hospital at this station.[63] On October 12, 1917, the post surgeon submitted plans for the adaptation of the post for general hospital purposes.[64] In these plans he proposed to use only the permanent buildings, stating that the existing temporary buildings were of an entirely too temporary character, particularly for that climate, and that money spent in the attempt to fit them for occupancy by the sick would be of little avail. He contemplated a 500-bed hospital in his plans and requested the allotment of $39,000 to accomplish the work. This post, however, was still occupied by troops. At that time about 2,000 recruits were under training and it was expected that they would be there for some time. The plan could not be proceeded with.

In May, 1917, three temporary ward buildings had been added to the post hospital, giving it a capacity of approximately 100 beds, but these beds were needed for the care of the sick of the troops constantly stationed at the post and had nothing to do with the general hospital project.[61]

For practically a year nothing was accomplished toward the development of large general hospital facilities at this station, for from October, 1917, until September, 1918, the post was occupied, containing from 700 to 1,900 troops; consequently the buildings could not be made available for hospital purposes.

On September 11, 1918,[65] the Surgeon General made another request for the use of this post for general hospital purposes, and on October 24, 1918, it was designated General Hospital No. 37.[66]

The plan for the hospital contemplated the conversion of the permanent barracks into wards by the installation of toilet facilities, nurses' rooms, utility rooms, the cutting of doorways, thorough renovation, interior painting, and the connection of the buildings by inclosed corridors; it included, also, the conversion of one floor of the administration building into a general mess and kitchen, and covered the alteration, for hospital use, of nine temporary cantonment buildings, by the installation of sheathing, interior lining, better heating, and the reinforcement of floors to conserve heat.[64] The plan was approved and was partially carried out. It was determined that it would be unprofitable to use the temporary buildings for sick, as even lavish amounts of preparation and renovation would not render them satisfactory, for it was practically impossible to heat them during the cold winters, such as are common to this latitude. The full general hospital development anticipated at this station was never carried out, but approximately $50,000 was spent for the various improvements and repairs.

When the station was designated General Hospital No. 37 in October, 1918, it had a capacity of 100 beds, and 50 sick were under treatment.[67] A month later, the capacity had been increased to 300, and at this time 133 sick were under treatment.[67] From then on, the number of sick receiving treatment increased but little. After the middle of February, 1919, no more sick were sent from the ports of embarkation or from any other source, and on March 1,[68] it was recommended to the Secretary of War that this hospital be changed to a post hospital. The above recommendation was approved March 4, 1919, and went into effect at once.[69]

Statistical data, United States Army General Hospital No. 37, Madison Barracks, N. Y., from November, 1918, to March 4, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
November	19	30	71	13	133	28	.....	.....	.....	.....	.....	.....	1	99	5	1,415	42
December	104	42	2	.....	148	50	.....	3	.....	.....	.....	.....	7	87	1	3,013	84
1919.																	
January	88	44	110	1	243	40	1	1	.....	.....	2	4	44	151	.....	2,312	.....
February	151	30	59	6	246	29	3	3	.....	.....	.....	45	39	127	.....	2,311	.....
March	127	13	.....	.....	140	17	.....	1	.....	.....	.....	121	1	.....	.....	661	.....

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
November	5	40	17	62	January	125	25	35	185
December	5	35	13	53	February	125	25	35	185
					March	10	8	7	25

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
November	17	2	6	25	242	120	362	11
December	14	3	5	22	226	102	328	11
1919.								
January	11	4	4	19	225	98	323	10
February	12	4	3	19	220	99	319	15
March	2	4	3	9	1	....	1	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 38, EASTVIEW, N. Y.

General Hospital No. 38, formerly the Westchester County Almshouse and Penitentiary, was situated in the Pocantico Hills, Westchester County, N. Y., 2 miles east of Eastview station on the New York Central & Hudson River Railroad, 3 miles east of Tarrytown, and 4 miles north of White Plains. This property was leased from the county of Westchester October 7, 1918, effective October 10, 1918, and included 150 acres of farm land, part of which was ready for cultivation, and the following buildings: The Westchester County Almshouse, the Westchester County Penitentiary, and the power plant, including the laundry, cold-storage plant, bakery, and storage facilities.[70] The rental for the first year was $190,000 and thereafter $140,000 per year.[70]

The almshouse was a brick and stone fireproof structure with two floors and a high, well lighted and aired basement. The buildings were arranged in quadrangles surrounding three large courts and were either continuous or were connected by wide closed corridors; they were comparatively narrow and therefore very light and airy. The construction was modern in every way and the buildings were new, white, and clean, though not quite complete, especially in regard to electric installation, cooking equipment, window shades, and screening, but they were exceptionally well adapted for hospital purposes. The almshouse contained its own kitchens (without equipment), dining rooms, assembly hall and chapel, and was well provided with large dormitories, wide hallways, and a moderate number of private rooms.[71]

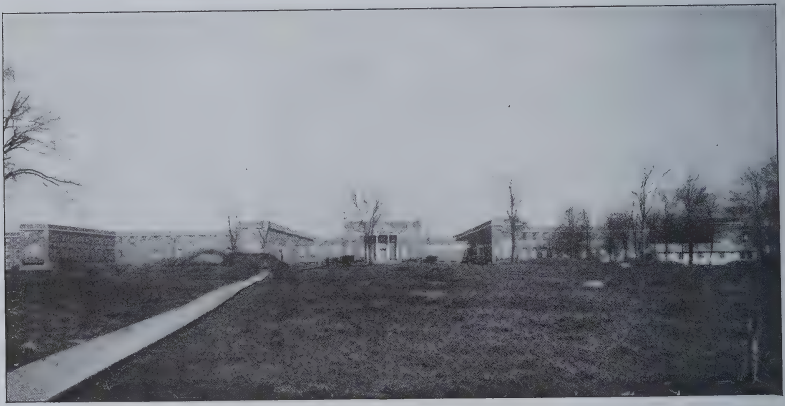

FIG. 192.—General Hospital No. 38, Eastview, N. Y.

The penitentiary, situated 300 yards from the almshouse, was a comparatively new building and had been occupied about one year. It had a capacity of about 275 prisoners and a space for officers, guards, etc. It was a handsome building of its kind, quadrangular in plan, very unlike a prison, and of high-class fireproof construction. It contained its own little hospital, four schoolrooms, an assembly room, a modern kitchen with mechanical equipment, and dining rooms. The apartments for the officials and guards were excellent in every way, and the cells for the prisoners were equipped each with its own cot, desk, lavatory, and toilet, and each was individually ventilated. The interior as a whole was lavishly appointed and of pleasing appearance throughout.[71]

The power house, containing also the bakery, laundry, cold-storage plant, and storage rooms, continued in use during the Army occupancy.[72]

At the time of the original survey, resulting in the acquisition of the property, it was estimated that 1,300 sick could be accommodated, provided that temporary quarters for the nurses were constructed.[71] It was also estimated that the capacity could be extended to 2,000 by the utilization of the many wide hallways and corridors and by the closing of many open porches, and that $235,000 would be required to do this work.[71] There was some thought at that time that the property might be used for the treatment of mental cases, as at this particular time it seemed necessary that some additional space be provided for this class of sick. It was determined, however, not to construct new temporary buildings for nurses' quarters and not to send mental cases to this hospital.

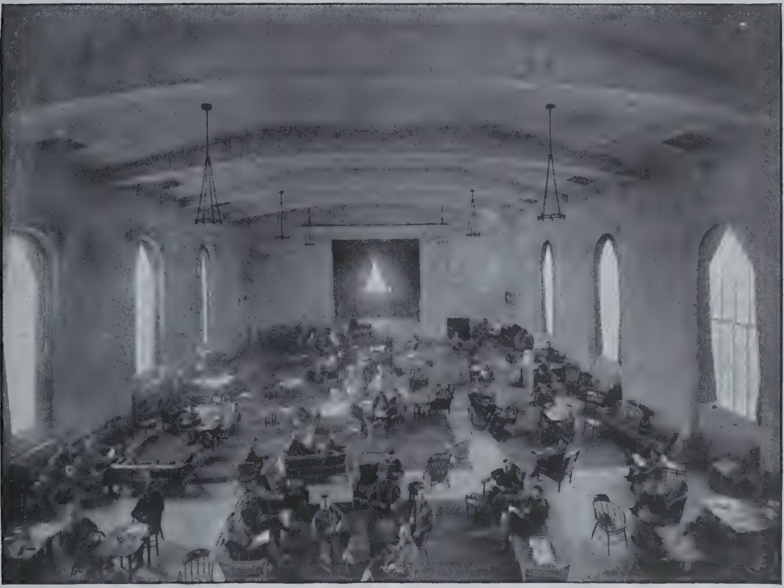

FIG. 193.—Recreation room, General Hospital No. 38, Eastview, N. Y.

The personnel for the development of the hospital began to arrive in late October and early November, 1918, and the work of alteration and occupation began. In the meantime a complete study had been made of the property and plans prepared for the necessary alterations.[73] The work was carried on through the winter and completed in March, 1919.

The following alterations were made in the almshouse: In the basement there were installed the shops for reconstruction activities, the schoolrooms, hospital and quartermaster stores, and many other activities similarly adapted to basement space.[73] The kitchens were created mainly by the installation of necessary equipment for the preparation of food and facilities for cooking and dish washing. The operating suite, the eye, ear, nose, and throat section, and other specialties were easily installed in the small rooms which contained running water, sinks, and other necessary plumbing facilities.[73] The laboratory, X-ray rooms, and pharmacy were installed in a similar way where the least amount of alteration was necessary.[73] Linen rooms, the post office, the receiving department, treatment rooms, etc., were installed in a similar manner, but as the number of small rooms was not sufficient for such isolated activities, a considerable amount of partitioning was necessary.[73] The majority of the sick were provided for in large wards, 20 of which alone gave a capacity of 850. Each of these wards was provided with appropriate ward offices, a utility room, a toilet, and a serving room.[73] The provision of window shades and screening was a considerable item, but was very necessary.[73] The essential outside work comprised the construction of board walks, much roadway—the existing roads were unsuitable for heavy trucks—temporary buildings for stables, and a garage. The sewage disposal system, not being sufficient for the increased population caused by military occupation, had to be enlarged. The water supply was insufficient too, and it was necessary to install a pumping unit near the Catskill aqueduct.

This property was designated "General Hospital No. 38" by War Department orders on November 28, 1918.[74] Though alterations had not been completed in many respects, it was opened as a general hospital in January, 1919, with a capacity of 500, and a small group of sick was received at once.[75] The number of sick increased until March, when it had risen to 833.[76] The capacity in the meantime had been increased to 820. Some of this capacity, however, was not realized, as nurses' quarters were not built, and the nurses were housed in the hospital building proper; the maximum capacity for the sick was therefore about 750.[76] From March until June, 1919, the number of patients remained in the vicinity of 1,000, although at one time, in May, a maximum of 1,133 was being treated in the hospital.[76] After May the decrease in the number treated was rapid and by July, 1919, it had dropped to 519.[76] In the meantime, on June 18, the abandonment of this institution had been recommended to take effect July 15,[77] and the War Department's approval was received on June 24.[78] No more patients were sent to the hospital from this time on, and of the 519 above referred to only 189, requiring further general hospital treatment, were remaining at the time of closure. These patients were sent by hospital train to General Hospital No. 2, and the institution was closed on July 15.[79] Steps had already been taken to cancel the lease and to return this property to the lessor. This was effected in September, 1919.[80]

Statistical data, United States Army General Hospital No. 38, Eastview, N. Y., from December, 1918, to July 15, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
December	......	1	......	......	1	1	......	......	......	......	......	......	......	......	......	12	......
1919.																	
January	......	29	4	......	33	13	......	......	......	......	......	......	......	20	......	261	......
February	20	54	441	......	515	40	......	2	......	......	......	......	1	472	......	7,854	......
March	472	38	319	4	833	40	......	78	3	......	......	5	60	647	......	18,556	......
April	647	35	196	4	882	37	1	10	......	......	......	26	180	628	......	21,653	......
May	628	17	485	3	1,133	37	1	44	5	......	......	28	290	728	......	21,183	......
June	728	19	267	......	1,014	120	2	63	......	......	......	16	313	500	......	21,510	......
July	500	13	......	6	519	58	......	87	3	......	......	202	169	......	......	6,067	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1919.					1919.				
January	1	....	....	1	May	5	30	....	35
February	2	3	....	5	June	5	30	....	35
March	2	8	....	10	July	4	21	....	25
April	13	28	....	41					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
December	5	4	2	11	21	30	51	....
1919.								
January	23	6	3	32	507	67	574	50
February	31	6	5	42	492	55	547	79
March	33	6	4	43	414	46	460	79
April	28	8	11	47	374	41	415	65
May	30	9	11	50	363	32	395	64
June	30	7	10	47	361	27	388	59
July	1	2	4	7	1	....	1	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

GENERAL HOSPITAL NO. 40, ST. LOUIS, MO.

The City Infirmary of St. Louis and one building of the City Isolation Hospital were leased November 4, 1918, effective November 15, 1918, at $65,000 for the first quarter and $4,950 per quarter thereafter.[81] The $65,000 for the first quarter, less the normal rental of $4,950, was intended to reimburse the city for the reconstruction of Christian Brothers' College Building, which had recently been partially destroyed by fire and into which property the city

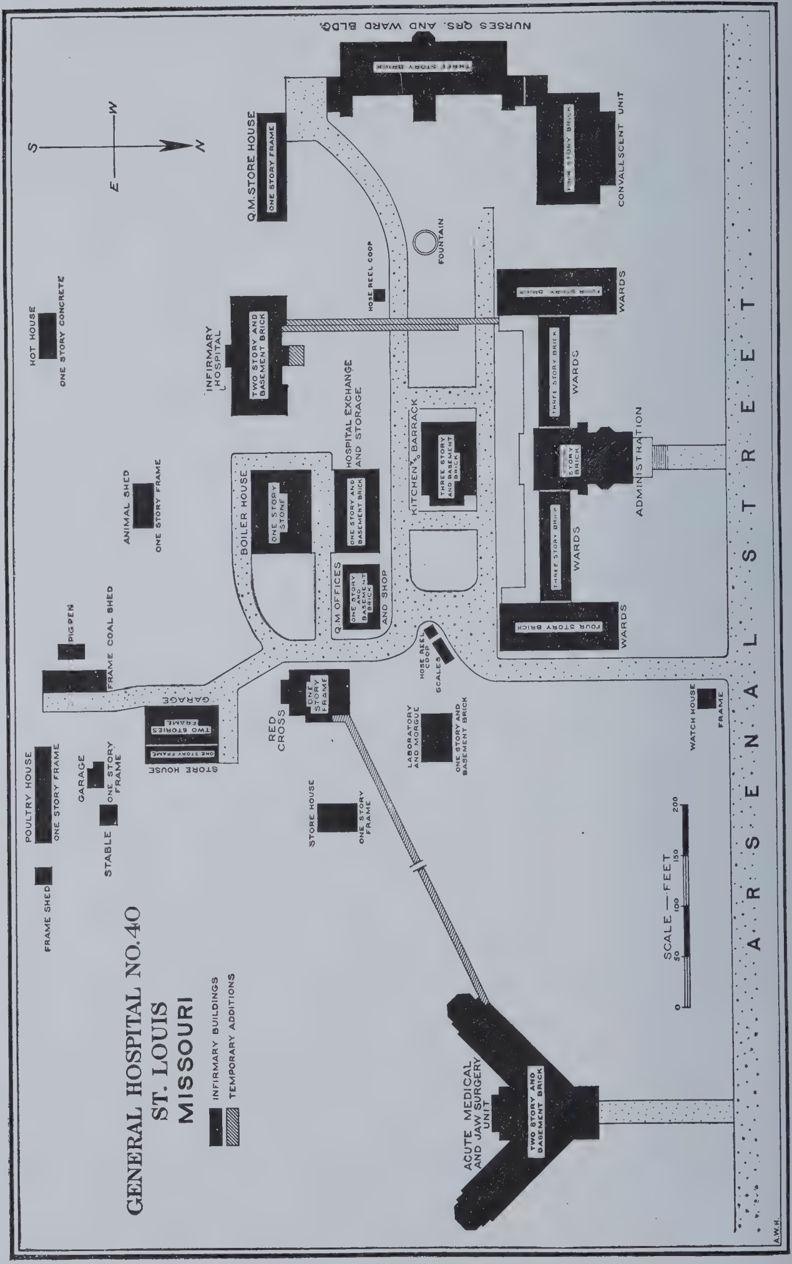
GENERAL HOSPITAL NO. 40
ST. LOUIS
MISSOURI
INFIRMARY BUILDINGS
TEMPORARY ADDITIONS
S
N
E
W
NURSES QRS. AND WARD BLDG.
THREE STORY BRICK
CONVALESCENT UNIT
FOUR STORY BRICK
Q.M. STORE HOUSE
ONE STORY FRAME
FOUNTAIN
HOSE REEL COOP
WARDS
FOUR STORY BRICK
THREE STORY BRICK
ADMINISTRATION
STORY BRICK
INFIRMARY HOSPITAL
TWO STORY AND BASEMENT BRICK
HOT HOUSE
ONE STORY CONCRETE
HOSPITAL EXCHANGE AND STORAGE
ONE STORY AND BASEMENT BRICK
KITCHEN & BARRACK
THREE STORY AND BASEMENT BRICK
BOILER HOUSE
ONE STORY STONE
ANIMAL SHED
ONE STORY FRAME
Q.M. OFFICES AND SHOP
ONE STORY AND BASEMENT BRICK
PIGPEN
FRAME COAL SHED
GARAGE
TWO STORIES FRAME
ONE STORY FRAME
STORE HOUSE
HOSE REEL COOP
SCALES
RED CROSS
ONE STORY FRAME
LABORATORY AND MORGUE
ONE STORY AND BASEMENT BRICK
WATCH HOUSE
FRAME
POULTRY HOUSE
ONE STORY FRAME
GARAGE
ONE STORY FRAME
STABLE
FRAME SHED
STORE HOUSE
ONE STORY FRAME
SCALE — FEET
0
50
100
150
200
ACUTE MEDICAL AND JAW SURGERY UNIT
TWO STORY AND BASEMENT BRICK
ARSENAL STREET
A.W.H.

FIG. 194.

proposed to move the 850 inmates of the infirmary when the War Department was given possession of the infirmary buildings.[81]

The city infirmary was located in the southwestern section of the city, 4½ miles from the Union Station. The property, 14 acres in all, was situated fronting on Arsenal Street and was a mile from Tower Grove Station of the Union Pacific and Frisco Railroads, a spur from the former extending into the grounds. There were 12 brick buildings and 13 small frame buildings; the former housed the inmates, personnel, and infirmary offices, and the latter were used for storage, recreation, farming, poultry, and gardening purposes.[81]

For some time prior to this period the city of St. Louis had been desirous of a hospital so that its war injured might be treated near their homes, and with this object in view had suggested Jefferson Barracks. However, space had not been available on the post for a general hospital and the project was never consummated.

Now that the city had leased its infirmary, to which possession was to be given November 15, 1918, all haste was necessary to rebuild the Christian Brothers' College and move thereto the old people from the infirmary.

On November 20, after the signing of the armistice and after a thorough study of the base and general hospital situation in the United States had been made, in reference to the probable return of overseas sick and wounded, the Surgeon General recommended that the lease of this property be canceled, stating that the space would not be required.[82] On December 10, however, the Secretary of War issued instructions to develop the St. Louis infirmary.[83] On December 12, the Surgeon General requested reconsideration of the matter and gave additional reasons why he thought it unnecessary and inadvisable to begin at this time the alteration of the property for general hospital use.[84] Again the project rested and so far as the Government was concerned nothing was done. The city of St. Louis, however, even though uncertain of what the Government was going to do ultimately, proceeded under the terms of the lease and began the reconstruction of the Christian Brothers' College. This work progressed slowly, and as late as January 15, 1919, it was far from complete and the infirmary could not be vacated.[85]

It might have been possible for the Government to have done some repair work in the infirmary, but until all the inmates could be removed, and especially 30 old people who were sick, the more necessary alterations required for our use, especially on the plumbing, cooking, and operating facilities, could not be proceeded with.[85] This briefly was the status when, on January 9, 1919, the Secretary of War informed the Surgeon General that one building of the infirmary was emptied and ready to be turned over to the War Department, and instructed the Surgeon General to take charge of the St. Louis hospital project and put it in condition to receive patients.[86]

In compliance with the above instructions the Surgeon General's Office and the Construction Division proceeded at once to put the property in condition to receive patients. Though still occupied by a majority of the inmates, all work began on portions still occupied. It was soon apparent that the $65,000 allotted would not complete the work; that the Christian Brothers' College could not be finished before late February or March, and it was felt that the little use to be derived from the new hospital would not repay the expenditure on the infirmary and the college and the moving of the old people from their home and hospital.[87] The Surgeon General was informed by the director of public welfare of St. Louis, who had at all times been the spokesman for the city, that Jefferson Barracks would still be quite acceptable to the city, and that he would welcome its use or any other solution that would curtail expense.

Though essentially good, and well arranged generally, the infirmary buildings were old and the toilet fixtures, plumbing, steam radiators, electric wiring, wood floors, sash and trimming, and hardware were in an unsatisfactory condition and required repair or replacement. The infirmary hospital as such was satisfactory, but it was necessary to make considerable changes to convert it into a surgical suite for a 550-bed hospital with special facilities for maxillofacial work, and to utilize the remaining space for surgical wards.[81] Much painting was done throughout to remove the institutional odor so common in such properties. In general, the character of the alteration work consisted of changes throughout to provide the necessary toilet, diet, kitchen, utility-room, and treatment-room facilities; repairing of walls, ceilings, woodwork, floors, radiators, piping, etc.; installation of new plumbing fixtures, additional radiation, a new hot water heating plant, electric fixtures, and new hardware. The work was completed late in March, 1919; and the total cost of alteration in the infirmary buildings was $129,000.

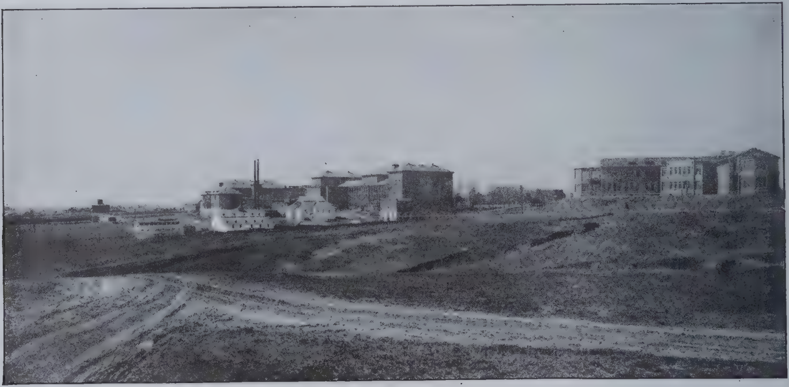

FIG. 195.—General Hospital No. 40, St. Louis, Mo.

It was designated General Hospital No. 40 on February 4, 1919,[88] and was opened in March with a capacity of 550 beds.[89] All maxillofacial injuries belonging to the Central West and all general medical and surgical cases, assignable to the St. Louis area, not already covered by other general hospitals, were ordered to this hospital and 50 such cases were admitted the first week in April. The number was gradually added to throughout April and May, 1919, and by June, 265 were receiving treatment here.[89]

On April 28, however, the Surgeon General again recommended the abandonment of this hospital, together with the abandonment of five or six other general hospitals no longer required.[90] On June 3 the Secretary of War directed that it be abandoned on or before June 15 and transferred to the United States Public Health Service.[91] On June 6 one half of the 250 patients, including all maxillofacial cases under treatment, were sent to the hospital at Jefferson Barracks, where there was sufficient space for them and where preparations for this specialty were provided; the remainder were sent to the hospital at Fort Riley, Kans.[92] On June 12 the hospital was transferred to the United States Public Health Service.[93]

Statistical data, United States Army General Hospital No. 40, St. Louis, Mo., from March, 1919, to June 15, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	Fom other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1919.																	
March		2		1	3	1						1	1				2
April		8	131	4	143	6						13	7	117		1,535	
May	117	20	174	45	356	19	1	3	2			4	97	230		5,344	
June	230	4	14	17	265	6						203	56			6,329	

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1919.					1919.				
February	2	2	3	7	May	31	26	6	63
March	23	8	3	34	June	31	26	6	63
April	39	26	6	71					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1919.								
January	26	6		32	0		0	
February	1	3	4	8	1	7	8	
March	15	3	1	19	14	11	25	1
April	32	5	2	39	152	11	163	50
May	32	4	2	38	204	12	216	43

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

REFERENCES.

(1) Letter from The Adjutant General to the commanding general, Eastern Department, June 23, 1917. Subject: Use of permanent barracks at certain posts for general and base hospital accommodations. On file, Record Room, S. G. O., 176795 (Old Files).

(2) Letter from the Surgeon General to The Adjutant General, May 22, 1918. Subject: Transfer of Plattsburg Barracks to the Medical Department as a general hospital. On file, Record Room, S. G. O., 322.3 (Plattsburg Bks.) N.

(3) First indorsement, War Department, A. G. O. to the Surgeon General, September 2, 1918. Subject: Designation of general hospitals. On file, Record Room, S. G. O., 322.3 (General Hospitals) K.

(4) First indorsement, War Department, S. G. O. to commanding officer, General Hospital No. 30, Plattsburg Barracks, N. Y., September 26, 1918. Subject: Allotments for construction and repair of hospital. On file, Record Room, S. G. O., 652 (Plattsburg Bks.) N.

(5) Letter from the Surgeon General to The Adjutant General, June 25, 1918. Subject: General hospital facilities for nervous and mental cases. On file, Record Room, S. G. O., 632 (General).

(6) Extract from report of investigation at post hospital, Plattsburg Barracks N. Y., made by Maj. Wm. H. Hobson, Inspector General's Department, August 19 to 22, 1918. On file, Record Room, S. G. O., 333 (Plattsburg Bks.) N.

(7) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(8) Letter from the Surgeon General to The Adjutant General, September 3, 1919. Subject: Discontinuance of General Hospital No. 30, Plattsburg Barracks, N. Y., On file, Record Room, S. G. O., 323.72–3 (Gen. Hosp. No. 30) K.

(9) First indorsement from War Department, S. G. O. to commanding officer, General Hospital No. 30, Plattsburg Barracks, N. Y., September 13, 1919. Subject: Transfer of patients on closing of hospital. On file, Record Room, S. G. O., 323.72–3 (Gen. Hosp. No. 30) K.

(10) Letter from the Secretary of Interior to the Secretary of War, July 16, 1918. Subject: Indian School at Carlisle, Pa. On file, Record Room, S. G. O., 601–1 (Carlisle, Pa.) F.

(11) Letter from Lieut. Col. Edgar King, M. C., to the Surgeon General, July 27, 1918. Subject: Carlisle Indian School, Carlisle, Pa. On file, Record Room, S. G. O., 601 (Carlisle, Pa.) F.

(12) Third indorsement from the Surgeon General to The Adjutant General, September 6, 1918. Subject: Condition of Carlisle Indian School. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 31) K.

(13) Letter from the Surgeon General to The Adjutant General, August 15, 1918. Subject: Designation of hospital. *Also* fifth indorsement thereto from The Adjutant General to the Surgeon General, September 24, 1918. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 31) K.

(14) Shown on weekly bed report. On file, Record Room, S. G. O., 632 (U).

(15) Report of sanitary inspection of General Hospital No. 32, Chicago, Ill., March 8, 1919, by Col. W. P. Chamberlain, M. C. On file, Record Room, S. G. O., 721 (Gen. Hosp. No. 32) K.

(16) Letter from committee authorized to secure hospital sites, to Brig. Gen. H. S. Johnson, Director of Purchase, Storage and Traffic, October 9, 1918. Subject: Lease, Cooper-Monatah Hotel, Forty-seventh Street and Drexel Boulevard. On file, Record Room, S. G. O. 601 (Cooper-Monatah Hotel, Chicago, Ill.) S.

(17) Shown on plans of General Hospital No. 32. On file, Hospital Division, S. G. O.

(18) Letter from The Adjutant General to the Surgeon General, December 5, 1918. Subject: Designation of hospital. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 32) K.

(19) Telegram from Darby to Surgeon General, January 11, 1919. Subject: Opening of hospital. On file, Record Room, S. G. O., 705 (Gen. Hosp. No. 32) K.

(20) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(21) Memorandum from the Surgeon General to the Director of Operations, April 15, 1919. Subject: Abandonment of General Hospital No. 32, Chicago, Ill. On file, Record Room, S. G. O., 481.1 (Gen. Hosp. No. 32) K.

(22) Letter from The Adjutant General to the Surgeon General, May 5, 1919. Subject: Abandonment of General Hospital No. 32, Chicago, Ill. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 32) K.

(23) Letter from The Adjutant General to the Surgeon General, May 2, 1919. Subject: Transfer of General Hospital No. 32 to Public Health Service. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 32) K.

(24) Telegram from Darby to the Surgeon General, June 15, 1919. Subject: Closing of hospital. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 32) K.

(25) Memorandum from Lieut. Col. G. F. Juenemann, M. C., to the Surgeon General, May 28, 1918. Subject: Fort Logan H. Roots, Ark. On file, Record Room, S. G. O., 632 (Fort Logan H. Roots) N.

(26) Letter from the Surgeon General to The Adjutant General, May 18, 1917. Subject: Use of permanent barracks of certain posts for hospital purposes. On file, Record Room, S. G. O., 632 (General).

(27) Letter from The Adjutant General to commanding general, Southeastern Department, June 23, 1917. Subject: Use of permanent barracks of certain posts for general or base hospital accommodations. On file, Record Room, S. G. O., 176795 (Old Files).

(28) Night letter from the Surgeon General to department surgeon, Southeastern Department, June 25, 1917, Subject: Instructions to submit hospital plans. On file, Record Room, S. G. O., 176795 (Old Files).

(29) First indorsement from the Surgeon General to the Quartermaster General for the officer in charge, cantonment construction, December 4, 1917. Subject: Approval of funds for renovation and alteration of buildings at Fort Logan H. Roots, Ark. On file, Record Room, S. G. O., 600.3 (Fort Logan H. Roots) N.

(30) Memorandum from the Surgeon General to The Adjutant General, January 11, 1918. Subject: Hospital at Fort Logan H. Roots, Ark. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 33) K.

(31) Letter from The Adjutant General to all department and camp commanders and all bureau chiefs, October 1, 1918. Subject: Designation of general hospital. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 33) K.

(32) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(33) First indorsement from Post Hospital, Fort Logan H. Roots, Ark., to the Surgeon General, March 11, 1919. Subject: Closing of hospital as a general hospital. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 33) K.

(34) Letter from superintendent, Norfolk State Hospital, East Norfolk, Mass., to Maj. Frankwood E. Williams, Division of Neurology and Psychiatry, Surgeon General's Office, August 21, 1918. Subject: Use of Norfolk State Hospital. On file, Record Room, S. G. O., 601 (Norfolk, Mass.) S.

(35) Report on Norfolk State Hospital, Norfolk, Mass., made by Lieut. Col. John A. Hornsby, M. C., October 5, 1918. On file, Record Room, S. G. O., 632 (Norfolk State Hospital, Norfolk, Mass.) F.

(36) Letter from the Surgeon General to commanding officer, General Hospital No. 34, East Norfolk, Mass., November 19, 1918. Subject: Record Room, S. G. O., 652 (Gen. Hosp. No. 34) K.

(37) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(38) Memorandum from the Surgeon General to the Chief of Staff, May 2, 1919. Subject: Abandonment of General Hospital No 34, East Norfolk, Mass. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 34) K.

(39) First indorsement from commanding officer, General Hospital No. 34, East Norfolk, Mass., to the Surgeon General, June 24, 1919. Subject: Closing of hospital. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 34) K.

(40) Letter from the committee authorized to secure hospital sites, to the Director of Purchase, Storage and Traffic, October 2, 1918. Subject: Lease of West Baden Springs Hotel, West Baden, Ind. On file, Record Room, S. G. O., 481 (West Baden, Ind.) F.

(41) Letter from the committee authorized to secure hospital sites, to the Director of Purchase, Storage and Traffic, October 2, 1918. Subject: Lease of Hotel Sutton, West Baden, Ind. On file, Record Room, S. G. O., 481 (West Baden, Ind.) F.

(42) Letter from hospital commission to construction quartermaster, West Baden, Springs Hotel, West Baden, Ind., October 29, 1918. Subject: Conversion West Baden Springs Hotel into a hospital. On file, Record Room, S. G. O., 481 (West Baden, Ind.) F.

(43) First indorsement from The Adjutant General to the Surgeon General, October 24, 1918. Subject: Designation of general hospitals. On file, Record Room, S. G. O., 322.3 (General Hospitals) K.

(44) Letter from the commanding officer, General Hospital No. 35, to the Surgeon General, November 24, 1918. Subject: Arrival of patients. On file, Record Room, S. G. O., 705 (Gen. Hosp. No. 35) K.

(45) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(46) Letter from the Surgeon General to The Adjutant General, March 1, 1919. Subject: Abandonment of General Hospital No. 35, West Baden, Ind. On file, Mail and Record Division, A. G. O., 602.1 (Gen. Hosp. No. 35, Misc. Section).

(47) Letter from The Adjutant General to the Surgeon General, March 12, 1919. Subject: Abandonment of General Hospital No. 35, West Baden, Ind. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 35) K.

(48) Letter from the commanding officer, General Hospital No. 35 to the Surgeon General, May 8, 1919. Subject: Abandonment of hospital. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 35) K.

(49) Agreement entered into on the 14th day of April, 1919, between the West Baden Springs Co., lessors, and Lieut. Col. Floyd Kramer, M. C., U. S. Army, lessee. On file, Record Room, S. G. O., 481–1 (West Baden, Ind.) F.

(50) Letter from E. G. Liebold, secretary and treasurer, Henry Ford Hospital, Detroit, Mich., to Lieut. Col. John A. Hornsby, M. C., June 3, 1918. Subject: Use of Henry Ford Hospital for the Government. On file, Record Room, S. G. O., 632 (Henry Ford Hospital, Detroit, Mich.) F.

(51) Report on Henry Ford Hospital, Detroit, Mich., made by Lieut. Col. John A. Hornsby, M. C., October 7, 1918. On file, Record Room, S. G. O., 632 (Henry Ford Hospital, Detroit, Mich.) F.

(52) Letter from the Acting Surgeon General to the Chief of Staff, September 11, 1918. Subject: Lease of Ford Hospital at Detroit, Mich. On file, Record Room, S. G. O., 601 (Detroit, Mich.) S.

(53) Contained in lease. Copy on file, Record Room, S. G. O., 481 (Detroit, Mich.) F.

(54) Shown on plans of General Hospital No. 36. On file, Hospital Division, S. G. O.

(55) Supplemental agreement between Henry Ford Hospital and U. S. Army, entered into May 15, 1920. On file, Record Room, S. G. O., 680 4–1 (Gen. Hosp. No. 36) K.

(56) First indorsement from The Adjutant General to the Surgeon General, October 24, 1918. Subject: Designation of General Hospitals. On file, Record Room, S. G. O., 322.3 (General Hospitals) K.

(57) Shown on bed reports. On file, Record Room, S. G. O., 632 (U).

(58) Memorandum from the Surgeon General to the Director of Operations, General Staff, June 19, 1919. Subject: Cancellation of lease of General Hospital No. 36, Detroit, Mich. On file, Record Room, S. G. O., 481 (Gen. Hosp. No. 36) K.

(59) Letter from The Adjutant General to the Surgeon General, August 14, 1919. Subject: Abandonment of General Hospital No. 36, Detroit, Mich. On file, Record Room, S. G. O., 680.1 (Gen. Hosp. No. 36) K.

(60) Letter from the commanding officer, General Hospital No. 36, to the Surgeon General, August 10, 1919. Subject: Report on closing of hospital. On file, Record Room, S. G. O., 705–1 (Gen. Hosp. No. 36) K.

(61) Letter from surgeon, Madison Barracks, N. Y., to the Surgeon General, December 22, 1917. Subject: Report on the post. On file, Record Room, S. G. O., 323.7–6 (Madison Bks.) N.

(62) Letter from the Surgeon General to The Adjutant General, May 18, 1917. Subject: Use of permanent barracks at certain posts for base or general hospital purposes. On file, Record Room, S. G. O., 632 (General).

(63) Letter from the Surgeon General to the department surgeon, Eastern Department, June 30, 1917. Subject: Plans for base hospital. On file, Record Room, S. G. O., 176795 (Old Files).

(64) Plans on file, Hospital Division, S. G. O. (Madison Bks.).

(65) Letter from the Surgeon General to the Chief of Staff, September 11, 1918. Assignment of Madison Barracks for hospital purposes. On file, Record Room, S. G. O., 680.3 (Madison Bks.) N.

(66) First indorsement from The Adjutant General to the Surgeon General, October 24, 1918. Subject: Designation of general hospitals. On file, Record Room, S. G. O., 322.3 (General Hospitals) K.

(67) Shown on bed reports. On file, Record Room, S. G. O., 632 (U).

(68) Letter from the Surgeon General to the Adjutant General, March 1, 1919. Subject: Designation of General Hospital No. 37, Madison Barracks, N. Y., as a post hospital. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 37) K.

(69) Letter from The Adjutant General to the Surgeon General, March 4, 1919. Subject: Designation of hospital at Madison Barracks, N. Y. On file, Record Room, S. G. O., 322.3 (Gen. Hosp. No. 37) K.

(70) Letter from Mr. Guy M. Rush to Maj. James S. Holden, Purchase, Storage and Traffic Division, General Staff, October 11, 1918. Subject: Report on Westchester County Hospital and Penitentiary. On file, Hospital Division, S. G. O. (Gen. Hosp. No. 38).

(71) Report on Westchester County Almshouse and Penitentiary, White Plains, N. Y., made by Lieut. Col. John A. Hornsby, M. C., October 1, 1918. On file, Record Room, S. G. O., 000.6 (White Plains, N. Y.) F.

(72) Report of sanitary inspection of General Hospital No. 38, Eastview, N. Y., made on February 16, 1919, by Col. W. S. Shields, M. C. On file, Record Room, S. G. O., 721 (Gen. Hosp. No. 38) K.

(73) Shown on plans of General Hospital No 38. On file, Hospital Division, S. G. O.

(74) Second indorsement from The Adjutant General to the Surgeon General, November 28, 1918. Subject: Designation of general hospital. On file, Mail and Record Division A. G. O., 680.1 (Gen. Hosp. No. 38) Misc. Section.

(75) Telegram from Connolly, Eastview, N. Y., to the Surgeon General, January 2, 1919. Subject: Opening of hospital. On file, Record Room, S. G. O., 705 (Gen. Hosp. No. 38) K.

(76) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(77) Memorandum from the Surgeon General to the Director of Operations, General Staff, June 18, 1919. Subject: Cancellation of lease. On file, Mail and Record Division, A. G. O., 481 (Gen. Hosp. No. 38) Misc. Section.

(78) Letter from The Adjutant General to the Surgeon General, June 23, 1919. Subject: Abandonment of General Hospital No. 38, East View, N. Y. On file, Record Room, S. G. O., 323.7–5 (Gen. Hosp. No. 38) K.

(79) Letter from commanding officer, General Hospital No. 38, to the Surgeon General, September 1, 1919. Subject: Final report of closing. On file, Record Room, S. G. O., 602–1 (Gen. Hosp. No. 38).

(80) Letter from the Chief of Real Estate Service, War Department, to the county of Westchester, N. Y. August 30, 1919. Subject: Notice of cancellation of lease. On file, Record Room, S. G. O., 481 (Gen. Hosp. No. 38) K.

(81) Letter from Guy M. Rush, real estate expert, to the Chief of Real Estate Section, Purchase, Storage and Traffic Division, General Staff, November 5, 1918. Subject: Report on city infirmary and isolation hospital, St. Louis, Mo. On file, Record Room, S. G. O., 601–1 (St. Louis, Mo.) F.

(82) Letter from the Surgeon General to the Chief of Staff, November 20, 1918. Subject: Withdrawal of hospital projects. On file, Record Room, S. G. O., 632 (General).

(83) Letter from The Adjutant General to the Surgeon General, December 10, 1918. Subject: Hospital accommodations for the region about Philadelphia and St. Louis. On file, Record Room, S. G. O., 481 (Phila. Pa.) F.

(84) First indorsement from the Surgeon General to The Adjutant General, December 12, 1918. Subject: Request for reconsideration of matter. On file, Record Room, S. G. O., 481 (Phila., Pa.) F.

(85) Memorandum from Lieut. Col. Floyd Kramer, M. C., to the Surgeon General, February 1, 1921. Subject: Reasons for verbal request for reconsideration of cancellation of lease on St. Louis Infirmary. On file, Record Room, S. G. O., 632 (Jefferson Bks.) N.

(86) Letter from The Adjutant General to the Surgeon General, January 9, 1919. Subject: Hospital at St. Louis, Mo. On file, Record Room, S. G. O., 632 (St. Louis, Mo.) F.

(87) Letter from the commanding officer, General Hospital No. 40, to the Surgeon General, February 12, 1919. Subject: Alterations of plans and retrenchment in connection with fitting these buildings for a general hospital. On file, Record Room, S. G. O., 632 (Gen. Hosp. No. 40) K.

(88) First indorsement from The Adjutant General to the Surgeon General, February 4, 1919. Subject: Designation of general hospitals. On file, Record Room, S. G. O., 322.3(General Hospitals) K.

(89) Shown on bed reports. On file, Record Room, S. G. O., 632 (U).

(90) Letter from the Surgeon General to the Chief of Staff, April 28, 1919. Subject: Abandonment of General Hospital No. 40, St. Louis, Mo. On file, Record Room, S. G. O., 323.7 (Gen. Hosp No. 40) K.

(91) Letter from The Adjutant General to the Surgeon General, June 3, 1919. Subject: Abandonment of General Hospital No. 40, St. Louis, Mo. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 40) K.

(92) Telegram from Edgar, commanding, to the Surgeon General, June 3, 1919. Subject: Transfer of patients. On file, Record Room, S. G. O., 323.7 (Gen. Hosp. No. 40) K.

(93) Second indorsement from the commanding officer, General Hospital No. 40, St. Louis, Mo., to the Surgeon General, June 14, 1919. Subject: Transfer of hospital to the Public Health Service. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 40) K.

SECTION VI.

OTHER BASE HOSPITALS.

CHAPTER XXIX.

BASE HOSPITALS, CAMP BEAUREGARD, LA., FORT BLISS, TEX., CAMPS BOWIE, TEX., CODY, N. MEX., CUSTER, MICH., DEVENS, MASS., DIX, N. J., DODGE, IOWA, AND DONIPHAN, OKLA.

BASE HOSPITAL, CAMP BEAUREGARD, ALEXANDRIA, LA.[a]

The base hospital of Camp Beauregard was located in Rapides Parish, La., 3½ miles north of Alexandria, a town of 20,000 population, on the east side of the Red River. The site was once that of the first University of Louisiana, and later of Camp Stafford, the Louisiana National Guard encampment. The hospital site was at an altitude of 120 feet above sea level, on hills which were wooded with pine and oak.

The soil is somewhat sandy; but forms a great deal of high-flying dust in dry weather and sticky mud after a rain. The climate closely borders that of the Tropics. The weather is warm most of the time, but in the winter months severe cold waves are frequently experienced, with a drop in temperature to about 15° or 20° above zero, followed by a sudden rise. The hospital was not exposed to heavy winds. There were no improved roads in or about the hospital, with the exception of the road leading to Camp Beauregard, about three miles away. The road leading to Alexandria was very bad, at times almost impassable, being of dirt and receiving very little attention. The hospital grounds were well drained, and the sanitary status of the hospital was very good.

The hospital was organized September 1, 1917, with 22 officers and 123 enlisted men. The first patient was admitted on this date. One barrack building was used in the hospital for temporary hospital purposes, and as wards were completed they were taken over and occupied.

The function of the hospital was to treat all cases arising at Camp Beauregard, and medical, surgical, and venereal cases from overseas.

The buildings constituting the hospital were arranged in the following manner: Looking to the east were the receiving ward, the administration building, and the sick officers' pavilion. Directly back of the administration building was the laboratory, and immediately in the rear of the laboratory was the operating pavilion. On the north side of the operating pavilion was a row of wards connected by corridors; and in front, setting well to the northwest of this row of wards, were four wards for contagious diseases. On the south side was arranged a row of wards extending from the front line back to the line of the main kitchen and the patients' mess hall, which was at the back part of the hospital looking west. This left a large central court between the operating pavilion, the main kitchen, and the patients' mess hall.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Beuregard, La.," by Lieut. Col. John T. Burrus, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The main hospital kitchen and mess hall were located at the rear of the hospital. The enlisted men's kitchen and mess hall were located in a barrack building near the enlisted men's barracks. The sick officers' kitchen and mess hall were located in the building for sick officers.

The officers' quarters and the quarters for the nurses were situated about 200 yards directly in front of the administration building, and across the Jefferson Highway. The quarters for both officers and nurses were enlarged, when the capacity of the hospital was increased.

Three buildings situated alongside the switch, constructed by the railroad to supply them, constituted the storehouses of the hospital.

The water supply was from a deep well near the hospital, and was independent of that of the camp. The water was forced through a filter, into a tank, which stood about 150 feet high, on the central court between the operating pavilion and the patients' mess hall.

The sewage of the hospital was removed by a general sewer, which emptied into the Red River about a mile and a half away. At first latrines were used, then the cesspool, and then toilets, constructed in buildings located between two wards.

The kitchen refuse was disposed of by a contractor, who hauled it each day to a hog pen some distance from the hospital. If the garbage accumulated at any time, it was burned. Manure was sold, given to farmers, or burned.

Shower and tub baths were located in buildings constructed between baths, and were connected with the hospital sewer.

Heating the hospital was effected by means of open stoves, two to four stoves being necessary to obtain a sufficient amount of heat in each ward.

The hospital was successfully and satisfactorily lighted by the electric company that supplied the lights to the city of Alexandria.

The hospital laundry work was done by a laundry in Alexandria. This laundry was too small to handle the enormous amount of work required.

At the beginning the equipment was very meager. There was a great shortage of everything; there was only part of the Wolfe unit for each ward; and the laboratory, the drug room, and the operating room were seriously handicapped in consequence of this shortage. These difficulties were overcome in time, and ultimately the entire hospital equipment was such as to compare favorably with any civil or military hospital.

The post exchange was operated for the benefit of the men, commodities being sold at a very small percentage above cost. The exchange purchased and operated three motor buses to furnish transportation between the hospital and the city of Alexandria. This was done for the convenience of those on duty at the hospital and for visitors to the hospital, there being no other means of transportation. The nominal tariff of 25 cents was charged.

The Young Men's Christian Association building, which was centrally located, was well patronized.

Recreations and amusements were provided by the Young Men's Christian Association directors. These included boxing matches, wrestling matches, and other indoor games, as well as handball games and baseball.

Statistical data, United States Army Base Hospital, Camp Beauregard, Alexandria, La., from September, 1917, to February, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	0	16	9	1	26	23	1	......	......	......	......	......	......	2	0	167	38
October	2	36	234	......	272	77	1	......	......	......	......	......	......	194	......	4,248	......
November	194	1,423	......	......	1,617	1,058	45	......	......	......	......	......	2	512	......	11,203	......
December	512	1,984	......	......	2,496	1,402	84	1	......	......	......	32	4	973	......	19,203	......
1918.																	
January	973	1,868	0	0	2,841	1,616	62	20	......	......	......	51	14	1,078	......	24,002	......
February	1,078	1,679	......	......	2,757	1,633	29	38	......	......	......	1	7	1,049	......	20,246	......
March	1,049	1,602	......	......	2,651	1,564	6	34	......	......	......	2	15	1,030	......	21,973	......
April	1,030	2,721	......	......	3,751	2,329	6	22	......	......	......	......	14	1,380	......	24,762	......
May	1,380	1,918	47	0	3,345	2,296	11	17	......	......	......	......	18	1,003	......	23,420	......
June	1,003	1,507	16	1	2,527	1,472	2	1	......	......	......	1	4	1,047	......	32,923	......
July	1,047	2,098	16	2	3,163	2,130	6	7	......	......	......	65	10	945	......	36,083	......
August	945	1,117	2	14	2,078	1,259	1	57	......	......	......	......	28	733	......	25,830	......
September	733	3,790	0	6	4,529	970	17	81	......	......	......	52	14	3,395	......	34,455	......
October	3,395	2,356	......	22	5,773	4,530	419	46	......	......	......	6	32	740	......	55,981	......
November	740	827	37	15	1,619	1,035	11	29	......	......	......	18	19	507	......	22,658	......
December	507	676	46	18	1,247	846	8	6	......	......	......	1	21	365	......	15,116	......
1919.																	
January	365	932	77	13	1,387	996	3	3	......	......	......	......	24	361	......	13,105	......
February	361	358	99	14	832	573	5	......	......	......	......	15	11	228	......	8,760	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1918.				
January	0	....	....	0	September	5	....	....	5
February	0	....	....	0	October	4	....	....	4
March	23	10	....	33	November	4	....	....	4
April	16	5	6	27	December	5	....	....	5
May	15	8	0	23	1919.				
June	15	8	....	23	January	7	....	....	7
July	13	0	0	13	February	0	....	....	0
August	13	....	....	13					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	22	1	1	24	123	....	123	....
October	30	1	1	32	123	....	123	5
November	41	2	1	44	201	....	201	26
December	62	2	1	65	204	....	204	72
1918.								
January	78	2	1	81	213	17	230	80
February	78	2	1	81	231	17	248	110
March	67	2	1	70	241	20	261	110
April	81	1	1	83	551	18	569	113
May	82	1	2	85	454	17	471	118
June	70	1	2	73	451	19	470	110
July	120	2	1	123	744	19	763	111
August	120	2	1	123	714	20	734	112
September	87	2	1	90	725	16	741	95
October	94	3	1	98	609	13	622	202
November	100	3	1	104	577	20	597	212
December	99	3	1	103	552	17	569	106
1919.								
January	49	3	1	53	525	21	546	83
February	41	2	1	44	346	17	363	46

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file ,Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, FORT BLISS, TEX.[a]

The base hospital was located within the military reservation of Fort Bliss, about 6 miles northeast of the city of El Paso, Tex., at an elevation of 3,900 feet above sea level. The reservation constituting Fort Bliss is an immense table-land surrounded by mountains at all points of the horizon except at the location of the Pass, from which the city takes its name. East of the hospital, extending for perhaps 30 miles, is a rolling desert covered with mesquite and cactus. The soil consists of a blanket deposit of carbonaceous lime, locally called "caliche," covered by light sand. Severe sand storms are frequent during winter and spring, the three or four rains per year incident to this section making no appreciable difference in the sand. Two hours after a rainfall the ground shows no signs of water excepting in low places where it may have pooled. The climate is semitorrid in character, tempered by the high elevation. Summer makes its appearance suddenly about the first of May, and winter about the middle of November, the seasons being marked by no gradual changes like those of the temperate zones. There is very little snowfall. The nights during winter are very cold and frosty, of a penetrating character peculiar to high altitudes. The summers, while hot, are endurable, the nights being uniformly cool. Were it not for the sand storms, the climate would be ideal. In addition to filling the air with sand, which sifted into all buildings, these winds damaged several of the hospital buildings.

The roads in and around the base hospital grounds were of macadam construction, developed by the Quartermaster Department, and they were adequate for a unit of a provisional character. Fort Bliss, being situated on the outskirts of El Paso, had the use of the city's paved streets, which were mostly constructed of asphalt or concrete. The roads, with the exception of a short section, were uniformly good.

There were no streams in the vicinity of this hospital. The Rio Grande, several miles southwest of the post, is a slow, sluggish river, full of sand bars, the water of which is largely diverted through canals and ditches for irrigation purposes.

On March 15, 1916, by telegraphic order from The Adjutant General, the post hospital at Fort Bliss was designated a base hospital for troops in the Southern Department. By Bulletin 36, Headquarters, Southern Department, dated September 28, 1916, the station was designated Base Hospital No. 2. By General Orders, No. 35, War Department, April 15, 1918, the name was changed to United States Base Hospital, Fort Bliss, Tex.

In view of the fact that this hospital was a development and an extension of the old post hospital, which had been doing more than the work assigned to an ordinary post hospital, the transition period was not marked by any sudden emergencies or needs. The only large building temporarily used for base hospital purposes prior to construction of the hospital proper was a brick barrack building, the lower floor of which was used for offices and the upper floor for convalescent patients. The mess hall of this troop barracks was also used for a short time for Medical Department personnel.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Fort Bliss, Texas," by Col. H. A. Webber, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The hospital treated all cases arising at Fort Bliss, and medical, surgical, tuberculosis and venereal cases from overseas.

The construction of 13 wards, each with a capacity of 30 beds, and a mess hall with a seating capacity of about 400, was commenced about the middle of April, 1916, and was rushed to completion in about 30 days. The wards were assigned to various services, and were occupied by patients as rapidly as construction was completed. The mess hall, the last of the buildings to be finished, was opened for use about May 15, 1916. It soon became apparent that the 13 new wards would not provide sufficient facilities for the care of the large number of troops mobilized at El Paso. Additional construction was then provided, including a colony of 14 superior wards, connected by covered walks, a large convalescent officers' ward, a set of nurses' quarters, sufficient to house 40 nurses, a large H-shaped mess hall seating about 600, with attached general and diet kitchens, and an administration building containing a dispensary.

The main hospital building, which constituted the old post hospital, faced west on the main road in Fort Bliss, which ran north and south. The cantonment wards first constructed ran parallel with this road in the rear and to the north of the main building; the wards of later construction were south of the main building, in two rows parallel to the main highway. The nurses' quarters were about 400 yards, in a southerly direction, from the main building, and the administration building was almost opposite the main building on the Fort Bliss Parade.

Enlisted patients and the personnel on duty were provided with a large H-shaped building for mess purposes. Two large dining halls, with a seating capacity of about 300 each, were connected by the kitchens and storerooms. Patients used one of the dining halls and Medical Department personnel the other. Patients in wards were served from the diet kitchens attached to the H-shaped mess hall, and from another unit located in the main brick building. A separate mess for officer patients was maintained, with a kitchen and dining room. Government allowances for rations kept apace with the rising cost of food supplies, and on the whole, this service was very efficient and satisfactory.

Only two sets of quarters were provided at Fort Bliss for the use of officers. The nurses' quarters consisted of several one-story cantonment buildings, divided into small rooms, with one comfortably large assembly parlor, a kitchen, and a small mess hall. No regular quarters for the Medical Department personnel were built, the men occupying such wards as were not needed for patients; or tents, when the capacity of the hospital was required for patients.

No storehouses were included in hospital construction. Rooms in the basement and attic of the old hospital building, and other buildings, were utilized for this purpose.

The water supply was identical with that of Fort Bliss, and was obtained from two artesian wells, 600 feet deep, the pumping capacity of the plant being about 500 gallons per minute. The tank capacity was not sufficient to supply the demand during the heaviest stress period, and the result was an insufficient pressure. At times this deficiency interfered with the service of operating room No. 1, located on the second floor of the main building. The water was of excellent quality and required no treatment for general use.

The sewage of the hospital was carried away in 6-inch pipes which connected with the municipal system of El Paso. These pipes were not quite adequate to carry away the sewage when the hospital was filled to capacity, but they sufficed for 700 patients. Combination baths and latrines, connected with the sewerage system, were conveniently located to serve each set of about six wards, but they were insanitary and very unsatisfactory. One toilet was installed in the newer wards; but the older wards, used for communicable diseases, still had the old style of closed stools, which, after disinfection, were treated in the usual manner. This condition was undesirable and was remedied in June, 1918.

Kitchen wastes were divided into three classes: The ordinary wet garbage, which was disposed of to civilians, on contract, for hog feeding; bottles and cans, which were turned over to the reclamation section of the Quartermaster Corps; and ordinary dry refuse, which was burned in incinerators. One incinerator, located behind the general mess, was used for all ordinary purposes; another unit, located behind the venereal section, was used for the destruction of dressings, etc., which originated in that department.

The plumbing in the main brick building was connected with the piping system mentioned. Combination bathhouses and latrines were connected with the main sewer through a large cistern, built of concrete, which acted as an equalizer when the sewer main became congested.

The main building was heated by hot-water furnaces, which were very efficient. The cantonment wards, offices, etc., were heated by ordinary soft coal stoves, which were very unsatisfactory.

The electric current was supplied to the hospital by an El Paso company, through the quartermaster. The apparatus proved satisfactory.

The laundry work of the hospital was done on contract with a civilian laundry company in El Paso, and the service was very efficient.

The nucleus of this unit being the old post hospital, its equipment was inherited. By a system of decentralization and amplification, each department was expanded to meet enlarged requirements. The operating room, formerly used by the post hospital for all purposes, was used only for major operations; an operating and dressing room were provided for the venereal section; and a similar unit was provided for acute surgical cases. The eye, ear, nose, and throat department had its own treatment room. The capacity of the hospital was increased from approximately 100 to 800. Three motor ambulances, a motor truck, one escort wagon, a Dodge car, and motorcycles were available.

The post exchange at this hospital was started in the spring of 1916, on credit and without capital. It occupied a superior cantonment building, improved at the expense of the exchange, with modern fixtures, soda fountain, two pool tables, cash register, etc. A Dodge car, purchased with exchange funds, was a source of revenue as well as convenience. On May 31, 1918, the balance sheet showed nearly $3,000 cash on hand. The net value of the exchange was in excess of $7,500. The management was always liberal, and this exchange was one of the conspicuous successes of the station, both financially and from the standpoint of service.

The building used by the Young Men's Christian Association, which was completed during October, 1917, was of excellent construction and design, and had a seating capacity of about 250. The management was in the hands of well-qualified secretaries, who took an altruistic interest in the welfare of the patients and the Medical Department personnel. Programs were provided for evening entertainments, which included moving pictures three times a week. Helpless patients were visited in their wards.

Statistical data, United States Army Base Hospital, Fort Bliss, Tex., from April, 1917, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
April	594	173	1,152	58	1,977	1,124	25	16	.....	.....	.....	3	24	782	3	20,307	83
May	785	247	1,489	76	2,597	1,904	32	17	.....	1	.....	5	35	603	0	23,885	27
June	603	205	1,214	43	2,065	1,385	19	.....	.....	.....	1	11	24	625	0	16,198	.....
July	625	147	798	43	1,613	1,158	10	17	.....	.....	.....	7	21	400	.....	15,616	31
August	400	171	556	47	1,174	694	4	22	1	.....	.....	7	27	418	1	13,258	51
September	419	139	424	34	1,016	494	4	34	.....	.....	.....	9	18	457	0	13,884	4
October	457	28	472	19	976	508	.....	134	.....	.....	.....	4	19	311	.....	.....	.....
November	311	20	614	19	964	587	0	61	.....	.....	.....	1	16	299	.....	10,222	.....
December	299	21	827	22	1,169	714	4	24	.....	.....	.....	.....	9	418	.....	10,745	.....
1918.																	
January	418	36	1,023	21	1,498	949	9	10	.....	.....	.....	.....	10	520	.....	15,086	.....
February	520	26	849	14	1,409	850	9	36	.....	.....	.....	1	18	495	.....	13,730	.....
March	495	38	1,029	16	1,578	983	3	41	.....	.....	.....	4	18	529	.....	16,225	.....
April	529	33	1,091	12	1,665	1,142	3	25	.....	.....	1	.....	13	481	.....	16,079	.....
May	481	18	907	11	1,417	887	6	20	.....	.....	2	4	13	485	.....	14,582	.....
June	485	18	901	12	1,416	907	1	5	.....	.....	.....	9	20	473	1	15,044	.....
July	474	45	623	19	1,161	731	3	13	.....	.....	3	19	16	375	1	43,564	10
August	376	13	611	19	1,019	643	10	7	.....	.....	.....	4	13	340	2	11,167	11
September	342	37	852	7	1,238	581	4	1	.....	.....	.....	2	16	623	11	10,224	.....
October	634	124	2,360	137	3,255	2,410	171	.....	.....	.....	2	9	40	623	.....	23,556	23
November	623	35	528	20	1,206	752	25	1	.....	.....	1	17	25	384	1	14,861	19
December	385	23	580	10	998	633	13	7	.....	.....	.....	6	12	327	.....	11,068	36
1919.																	
January	327	25	885	38	1,275	594	12	17	.....	.....	.....	10	14	628	.....	11,908	.....
February	628	35	594	24	1,281	538	13	10	.....	.....	.....	278	19	423	.....	15,751	.....
March	423	34	533	16	1,006	641	11	17	.....	.....	.....	35	2	300	.....	11,250	.....
April	300	29	408	22	759	257	2	137	.....	.....	.....	20	22	320	1	9,438	.....
May	321	19	265	20	625	296	.....	23	.....	.....	.....	15	22	269	.....	9,804	.....
June	269	18	315	27	629	305	5	10	.....	1	.....	10	22	276	.....	8,532	.....
July	276	18	328	13	635	296	1	13	.....	.....	.....	10	28	286	1	8,486	.....
August	287	28	444	17	776	358	3	9	.....	.....	.....	6	26	374	.....	9,913	23
September	374	11	325	13	723	434	2	16	.....	.....	.....	6	15	250	.....	9,320	.....
October	250	13	295	14	572	271	.....	21	.....	.....	.....	13	15	252	.....	8,012	.....
November	252	14	298	11	575	274	1	19	.....	.....	.....	5	13	263	.....	7,628	25
December	263	18	228	6	515	190	1	16	.....	.....	.....	8	20	277	3	7,548	46

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1917.				
April	24	37	40	101
May	25	30	32	87
June	26	30	27	83
July	26	30	27	83
August	25	28	24	77
September	23	25	22	70
October	1	18	9	28
November	1	18	9	28
December	1	17	7	25
1918.				
January	1	17	7	25
February	1	32	14	47
March	9	37	15	61
April	9	38	16	63
May	9	41	17	67
June	3	45	20	68
July	3	48	20	71
August	4	49	20	73
September	4	50	22	76
October	4	50	22	76
November	4	50	22	76
December	4	50	22	76
1919.				
January	4	50	22	76
February	4	50	22	76
March	4	50	22	76
April	4	50	22	76
May	4	50	22	76
June	4	50	22	76
July	4	50	22	76
August	4	50	22	76
September	4	50	22	76
October	6	50	22	78
November	6	30	20	56
December	6	30	20	56

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Fort Bliss, Tex., from April, 1917, to December, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
April	34	....	....	34	330	....	330	51
May	24	....	....	24	330	....	330	46
June	29	....	....	29	292	....	292	45
July	23	....	....	23	287	....	287	56
August	22	....	....	22	245	....	245	44
September	21	....	....	21	240	....	240	44
October	25	....	....	25	274	....	274	43
November	23	....	....	23	276	....	276	34
December	26	....	....	26	212	....	212	39
1918.								
January	26	....	....	26	202	....	202	35
February	25	1	....	26	202	....	202	37
March	26	....	....	26	163	....	163	36
April	30	1	....	31	163	....	163	47
May	31	1	....	32	246	....	246	47
June	37	1	....	38	255	....	255	46
July	38	2	....	40	275	....	275	49
August	35	2	....	37	270	....	270	43
September	33	4	1	38	263	....	263	47
October	31	5	1	37	258	....	258	45
November	32	5	1	38	268	....	268	42
December	30	6	1	37	250	....	250	42
1919.								
January	23	5	1	29	243	1	244	41
February	26	5	2	33	283	1	284	51
March	25	5	2	32	261	1	262	46
April	21	5	2	28	252	5	257	35
May	23	5	2	30	214	5	219	34
June	23	6	2	31	194	4	198	34
July	24	8	2	34	184	3	187	32
August	21	6	2	29	185	3	188	30
September	20	3	2	25	177	3	180	32
October	16	1	....	17	162	3	165	37
November	18	2	....	20	162	3	165	33
December	24	2	....	26	159	3	162	30

BASE HOSPITAL, CAMP BOWIE, TEX.[a]

The base hospital of Camp Bowie was located in Tarrant County, Tex., in the northeastern part of the State, 4½ miles from Fort Worth, a city of 110,000 population. The city of Dallas is east of Fort Worth, 28 miles by interurban railroad and 32 miles by automobile road. The hospital site was at the southwest corner of the camp and embraced 70 acres of slightly and gradually rolling land, which was not wooded but which had flat expanses throughout.

The soil of that locality is of a clay-loam mixture overlying a limestone rock to a depth varying from a few inches to 4 or 5 feet, and there was very little high-flying dust about the hospital in dry weather. Rains, when they occur, are excessive, resulting in considerable extremely sticky mud, which soon disappears. Board and gravel walks, constructed several months after the organization of the hospital, eliminated the carrying of mud into the hospital buildings.

The summers are exceptionally warm, but the humidity is not great; and, despite the heat of the day, the nights are cool as a result of a continuous breeze, and are conducive to restful sleep. The winters, as a rule, are not severe. The "northers," however, which occur during the fall and winter, bring extreme cold, with very abrupt changes, the temperature sometimes falling 70 or 80 degrees in a day. The gradation of spring into summer and fall into winter is not noticeable. At times the wind is strong, but the location of the hospital was such that the full force of the wind was not received.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Bowie, Texas," by Maj. James C. Greenway, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's office, Washington, D. C.—*Ed.*

Several gravel and asphalt roads of good condition and leading to Fort Worth skirted the hospital.

The hospital was organized on August 21, 1917, as an emergency hospital, and the first patient was admitted on the day following.

Prior to the construction of the hospital proper, several small buildings, similiar to the ones subsequently used for the company mess pavilion, were utilized for hospital purposes, and tents were employed for the housing of the hospital corps men. During the construction of the hospital a small wooden building was used as an emergency hospital for construction employees. This contained a dispensary and a dressing station, but no ward.

The buildings of the hospital were systematically arranged over an area of 70 acres. With the exception of six two-story convalescent wards, all buildings were of one-story frame construction, built on concrete footings. The ward buildings were distributed according to a block scheme, there being six blocks. One of these blocks was isolated, and was used for the housing of contagious patients. All other ward buildings were connected by a system of covered corridor runways.

The following scheme was adopted for designating the wards: The four principal rows of wards were designated "A," "B," "C," and "D," from north to south. The six wards in each row were numbered 1, 2, 3, etc., from east to west. The wards in the isolation section were numbered serially, from east to west, E–4 being the neuropsychiatric ward. The F section comprised two-story ward-barrack buildings, situated in two rows of three buildings each. Ten of the wards of the main part of the hospital had porches inclosed by temporary siding, which was removable, and was fitted with windows at appropriate distances. The space thus provided afforded room for about 24 additional beds, should an emergency require additional bed space. This corridor was continuous with the porch at the rear of the ward and had two entrances. The ward known as D–1 was fitted up as an office, with treatment rooms, waiting rooms, etc., for the venereal diseases section of the hospital; and it was here that the orthopedic clinic was held.

The two sets of officers' quarters were at the extreme northeast portion of the hospital, and, like the remainder of the hospital, they were of frame construction. The nurses' quarters were located to the southeast of the hospital grounds and were practically of the same plan and construction as the quarters for officers.

In the early days of the hospital, before the warehouses were completed, supplies for the hospital and for the 36th Division were stored in warehouse No. 10, quartermaster depot. At that time no shelving was supplied, and different articles had to be issued from the boxes in which they were shipped. Five warehouses were completed in October, 1917, measuring 24 by 150 feet, on a portion of the hospital site. Two of these warehouses were shelved, and one was used as a storehouse for medical supplies of the hospital, the other for medical supplies for the 36th Division. One half of a third warehouse was used to store the surplus stock and unserviceable property of the hospital, the other half was used by the camp medical supply depot. Another warehouse was turned over to the Red Cross, and the remaining one to the quartermaster. Two rooms, 8 by 14 by 11 feet, were built in the opposite ends of each warehouse. In one room of warehouse No. 1 was built a partition with a door and lock and the room, being shelved, served as the narcotic drug and liquor room. Three refrigerators were used in this warehouse for the storing of serums.

When the base hospital was started, and while it was housed in tents, it was equipped with whatsoever could be borrowed from the field hospitals of the 36th Division.

Most of the buildings, which subsequently constituted the base hospital, were received in an unfinished condition on September 24, 1917. At that time the medical supplies on hand were for a 548-bed hospital. The various wards, though unfinished, were equipped with these supplies to meet the demand of a beginning epidemic. There was no heating, water, lighting, or sewerage in connection with any building, and only an absolutely necessary equipment was installed from the Medical Department supplies. From time to time supplies were furnished on the basis of increased capacity, until an equipment was finally received for a hospital of 1,750 capacity. During December, 1917, the wards were ceiled and plumbing was installed in them.

During October, November, and December, 1917, several epidemics occurred, causing approximately 1,800 patients to be continuously in the hospital. This necessitated equipping all buildings with medical supplies, whether they had been finished or unfinished, and included the warehouses, the laundry, and the chapel. It also necessitated the transferring of these various supplies from building to building, and it resulted in an unusual loss of breakable nonexpendable property. Subsequently each ward was equipped according to the Wolfe unit plan.

Two days before the hospital was to be occupied the kitchen and mess hall were destroyed by fire. The kitchen was then installed in what was subsequently used as a bathroom, and the mess hall in a room that later became a medical ward. The kitchen was equipped with two field ranges, on which three meals a day were prepared for about 1,000 persons. Officers, nurses, enlisted men, and patients ate in the improvised mess hall; the patients and enlisted men messing at the same hour, but at separate tables, followed by the officers and nurses. These difficulties were soon overcome, however, and a large mess hall was opened for the convalescent patients in the center of the hospital grounds. Adjacent to this was a special diet kitchen, in charge of a dietitian, where every possible special diet could be prepared. The mess hall, which was one of the brightest spots in the hospital, could comfortably care for about 1,000 patients. The mess for the detachment, Medical Department, was separately located and had its own cooks; likewise, the nurses had a neatly arranged mess of their own. The officers' ward had its separate mess, supervised by a special dietitian; and a large mess hall for convalescent officers was located in the same building in which they were placed.

No laundry was established in the hospital, all laundry work for the institution being handled, at great expense and at much inconvenience, by outside laundries. From September 1 to December 31, 1917, a total of $5,507.81 was expended on laundry work. Because of the delays in delivery and excessive charges, a six months contract was made with another concern. From January 1 to April 30, 1918, inclusive, the cost was $9,020.18. The stock room for laundry was installed in a central building where the soiled laundry was collected in a separate room and clean laundry was distributed to the wards from another. In this building was installed, for the purpose of sterilizing mattresses, blankets, etc., an American steam sterilizer and an electric sewing machine, a seamstress being hired to repair the torn linen and garments.

The hospital received its water supply from Lake Worth, about 14 miles distant. The water was conveyed by gravity through 12-inch cast-iron water pipes into the Fort Worth pumping station, whence it passed through a filtration process into a reservoir, where it remained until settled. At the hospital 8 and 6 inch wrought and cast-iron pipe was used, the individual supply for each building having a separate shut-off outside the building and one at the main.

All sewage from the hospital buildings was carried off in 6-inch tile mains, branching into an 8-inch main sewer, which runs through the center of the hospital grounds, into the disposal plant, a modified Imhoff septic tank. After purification the sewage emptied into the west branch of the Trinity River. The ward latrines were situated between the wards, in double wards. Each was equipped with five vitreous china water-closets, one vitreous urinal, and one shower, with hot and cold water supply and a floor drain. All latrines had concrete floors.

Each single ward had a separate lavatory and bath in either the south or the north end of the building. Each was equipped with one white enameled cast-iron bathtub, three white-enameled washbasins with hot and cold water supply, and three water-closets with low flush tanks. The rubbish was burned in a number of incinerators located about the hospital grounds. Prior to the installation of the sewer system, dishwater was evaporated over the incinerators, and the solid residue was then burned. The garbage was collected in large cans each day and sold by the quartermaster to stock raisers. Each ward was heated with two hot-air furnaces. Coal and wood were used as fuel.

The electrical installation of the hospital was laid out excellently, from the converters to the main-line switches. Here there was evidence of contract rush and a disregard of National Code rules; but, in spite of this, the electrical efficiency was brought to the point where trouble calls averaged less than one per diem. A heavy-duty electrical potato peeler, a 3,000-watt electrical dry-bath cabinet, and a 1,200-watt baking apparatus for rheumatic ailments were installed. Many snap switches in the diet kitchen and a complete electrical outfit for the venereal clinic formed part of the electrical equipment. Six two-story ward and barrack buildings were electrically equipped, in which all wires were concealed and the ceiling lights were of the shallow-bowl canopy, pull-chain type. The entire electrical system of the hospital was pronounced over 90 per cent efficient.

The post exchange was organized during the latter part of September, 1917, without capital, with a limited stock, and in temporary quarters. It was soon permanently located at the entrance to the patients' mess building, where it gradually expanded in stock and the scope of its activities. A modern five-chair barber shop, baseball, tennis, and volley ball equipment, hat blocking, clothes pressing, a recreation room with billiard tables, were features of the exchange. It finally reached a maximum of stock valued at $2,000, and the fixtures were valued at $1,700.

A Young Men's Christian Association was established in December, 1917, across the hall from the post exchange and in the same building. It occupied one room and offered a common reading, writing, and meeting place for patients and Medical Department men. Various kinds of instructive entertainments were given daily. In May, 1918, the association moved into the chapel, where newspapers, books, magazines, games (such as checkers, chess, and dominoes), phonographic music, singers from the city, and other pleasures and comforts were provided.

Because of the crowded condition, in consequence of the epidemics of the winter of 1917–18, Red Cross supplies, which had been kept in a warehouse provided by the Government, had to be removed to and distributed from the basement of the chamber of commerce, Fort Worth. Later, a warehouse, centrally located, was provided and placed in charge of an associate field director. The Red Cross House for Convalescents was dedicated on May 18, 1918.

The field director visited the hospital one to three times daily, and an associate director was stationed at the hospital to notify parents not only of the condition of patients from time to time, but when they were discharged from the hospital.

In addition to the amusements provided by the Young Men's Christian Association and the Red Cross, croquet sets, indoor baseball outfits, magazines, and books were available. The personnel had for their amusement baseball, tennis, handball, and basket ball.

Statistical data, United States Army Base Hospital, Camp Bowie, Fort Worth, Tex., from August 22, 1917, to July 21, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
August	......	4	9	37	50	22	......	......	......	......	......	......	......	28	......	205	......
September	28	11	322	170	531	308	......	3	......	......	......	......	......	220	0	3,610	......
October	220	9	1,170	102	1,501	794	2	2	......	......	......	......	......	703	0	12,564	......
November	703	5,071	......	2	5,776	4,273	40	1	......	1	......	2	......	1,456	3	913	31
December	1,459	2,529	......	2	3,990	3,066	191	......	......	......	2	132	......	599	......	38,069	......
1918.																	
January	599	1,482	......	2	2,083	1,121	19	5	......	......	......	......	17	921	......	17,992	......
February	921	1,262	......	2	2,185	1,175	20	2	......	......	......	19	256	713	......	24,243	......
March	713	1,083	......	8	1,804	776	16	5	......	......	......	2	277	728	......	21,508	......
April	728	1,308	29	7	2,072	1,041	20	1	......	......	2	7	361	640	......	21,370	......
May	640	1,110	30	2	1,782	1,092	14	1	......	......	......	......	288	387	......	10,290	......
June	387	1,138	45	7	1,577	753	4	2	......	......	1	59	279	479	......	16,843	......
July	479	395	15	5	894	614	4	3	......	......	2	42	23	206	......	10,835	......
August	206	234	25	8	473	248	3	18	......	......	......	10	32	162	......	5,080	......
September	162	1,452	13	7	1,634	423	1	3	......	......	......	9	34	1,164	......	8,956	......
October	1,164	3,512	19	18	4,713	3,315	110	2	......	......	1	3	70	1,212	......	41,381	......
November	1,212	443	1	3	1,659	1,283	47	......	......	......	......	10	28	291	......	17,562	......
December	291	379	6	18	694	436	3	......	......	......	......	6	30	217	2	28,438	30
1919.																	
January	219	417	423	10	1,069	587	7	2	......	......	2	10	12	449	......	10,597	......
February	449	585	400	9	1,443	746	3	......	1	......	......	31	10	652	......	16,525	......
March	652	422	656	2	1,732	1,055	2	1	1	......	......	6	20	647	......	20,511	......
April	647	342	1,000	6	1,995	1,209	2	1	1	......	......	17	15	750	......	24,474	......
May	750	219	741	10	1,720	1,233	1	3	3	......	......	240	8	232	......	19,623	......
June	232	221	6	7	466	234	......	......	......	......	......	97	9	126	......	8,156	......
July	125	120	1	3	250	169	......	1	......	......	......	76	4	......	......	4,760	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Bowie, Fort Worth, Tex., from August 22, 1917, to July 21, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
August	10	....	....	10	143	....	143	....
September	28	2	1	31	139	....	139	....
October	36	2	1	39	142	....	142	8
November	36	2	1	39	299	....	299	53
December	54	2	2	58	303	....	303	87
1918.								
January	63	2	2	67	303	....	303	89
February	66	2	1	69	306	....	306	85
March	68	2	1	71	359	20	379	85
April	76	2	1	79	361	20	381	94
May	64	2	1	67	552	20	572	94
June	69	2	1	72	559	20	579	93
July	88	2	1	91	418	20	438	104
August	88	3	1	92	411	20	431	85
September	67	3	1	71	672	19	691	90
October	64	3	3	70	660	18	678	97
November	59	3	4	66	657	18	675	118
December	51	3	5	59	589	16	605	80
1919.								
January	44	3	5	52	530	16	546	78
February	42	3	4	49	412	15	427	76
March	43	3	3	49	392	13	405	58
April	39	3	3	45	380	13	393	58
May	39	2	2	43	275	4	279	58
June	17	2	2	21	275	4	279	23
July	17	2	2	21	63	....	63	10

BASE HOSPITAL, CAMP CODY, DEMING, N. MEX.[a]

The base hospital was situated at the extreme western part of Camp Cody about 3½ miles to the northwest of Deming, N. Mex., a town of approximately 3,000 population. Deming, and the surrounding country for many miles to the east and west, lie in the Mimbres Valley, which at this place is about 30 miles wide and is flanked on either side by mountain ranges, all fully visible from the base hospital. The mountains, with the cloudless skies and wonderful sunsets, furnished a restful and serene outlook for the convalescent patients. The Mimbres Valley, level and unbroken, is practically a desert. To the eye of the casual observer, however, this arid character is partly concealed by the green of the soapweed, the yucca and the cactus. It is traversed from west to east by the Mimbres River, which, in the part of its course adjacent to Camp Cody, is a river in name only, its channel being quite dry except following a cloudburst or the rapid melting of the snows in the mountains. The water in the river, except at flood time, sinks and disappears in the sand at the head of the valley, only to reappear at the surface some miles beyond the Mexican border. This phenomenon is supposed to account for the high level of the underground water in the valley.

The soil is sand, ofttimes mixed with an alluvium, which, under irrigation, is exceedingly fertile.

During the period of high winds (from the latter part of October to May) violent sand and dust storms are common. It is from this characteristic of the camp that the 34th Division acquired its sobriquet of "The sand storm division." Fortunately, the base hospital suffered less from the sand and dust than other parts of the camp by reason of its location to the windward side. The dust, much of which originated in the camp itself, was carried away from the hospital.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Cody, N. Mex.," by Lieut. Col. A. O. Davis, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The climate may be considered as agreeable and salubrious. The altitude of Deming is 4,215 feet. This combination of latitude and altitude, together with the cloudless sky in the middle of the day, favors an extreme diurnal range of temperature, which is especially noticeable in the fall and winter. In midsummer, however hot the day, the night is sufficiently cool for refreshing sleep. During the spring and summer seasons violent electrical storms occasionally occur. From September 1, 1917, to September 1, 1918, five soldiers were struck by lightning and two of them were killed.

The roads about the hospital and camp were constructed of gravel, which packed almost to the consistency of macadam. The highways of the surrounding country were, for the most part, rather primitive, but by reason of the dry and sandy soil, were rather easily kept in fair condition. The complete absence of waterways, except for the so-called Mimbres River, has already been noted; but irrigation plants, the pumps of which were usually operated by wind, were numerous and made the surrounding tracts present the aspects of an oasis. Except for the absence of running streams, which rendered sewage disposal unusually difficult, the location of the hospital was almost ideal from a sanitary point of view.

The base hospital had its beginning in 1916, growing out of the necessities of a camp occupied by a brigade engaged in the border service incident to the Mexican trouble of that time. With the cooperation of the town of Deming, there was constructed within its limits, on the west, a hospital building consisting of administration offices, an operating room, a patients' kitchen and mess hall and eight wards, all built around a central court. The collection of buildings was partially steam heated, and was electrically lighted. Its normal capacity was 200 patients. This institution performed the functions of a camp hospital throughout the construction period of the camp. On August 25, 1917, the 34th Division, consisting of 22,000 National Guard men from Iowa, Minnesota, Nebraska, and South Dakota, began mobilizing at Camp Cody, and in the course of events, on September 1, 1917, the camp hospital was officially designated as the base hospital. Coincident with the mobilization and establishment of the 34th Division, the construction of a new, more extensive and complete hospital was in progress, but by reason of the remoteness from a large center, and the difficulties encountered in obtaining material and labor, the new hospital was not ready for occupancy until November 4, 1917. Even then the accommodations were far from being complete. The urgent necessities of the medical service, however, permitted no further waiting for a greater degree of completion. Beginning with 45 patients on September 1, by October the service had increased to 130, and to 566 by November 1. The capacity of the original camp hospital (now known as 'old base') was increased by about 140 beds by the use of seven hospital tents. In the meantime, four of the new wards had been casually occupied by convalescent patients and those awaiting discharge for physical disability. Finally, the administrative offices and all of the medical patients were moved to the new quarters, the surgical patients remaining in the "old base."

As finally completed, the new base hospital included 52 buildings. Facing toward the east, on the main north and south road, were three buildings, the receiving office and ward, the administration building, and the officers' ward. Extending to the west from the receiving ward were wards 5, 6, 7, 8, 9, and10; extending to the west from officers' ward were wards 11, 12, 13, 14, 15 and 16. These two groups of wards, with the main building, surrounded a central court, in which was located in line with the administration building, and extending from it to the west, the X-ray and pathological laboratories, the operating pavilion, the post exchange, and the patients' and enlisted men's kitchen and mess hall. To the rear of each of the two rows of wards mentioned was an additional row of four wards; to the south were wards 1, 2, 3 and 4; and to the north were wards 17, 18, 19 and 20. All these wards and buildings were connected by covered walks, furnishing ready access from one to another. Additional buildings were grouped around this central body of buildings, standing separate and distinct. Across from the main road, and facing the administration buildings were the nurses' quarters; to the southwest was the psychiatric ward; to the west, the isolation wards, the medical property building, the morgue, the guardhouse, the garage, the quartermaster supply building, the enlisted men's barracks; to the north, additional barracks (two story), the Red Cross Hall and Library; and, to the north and facing the main road, the pavilion for head surgery.

At the time the camp hospital was organized as a base hospital, and until the new buildings were completed, the officers were quartered in tents. As the personnel increased, 2 hospital tents were pitched end to end, and occupied by 25 medical officers. The cold nights, the sand, and various other discomforts, rendered the tent quarters decidedly unsatisfactory for men just from civil life, but it was not recorded that anyone suffered from this mode of living. The new quarters were supplied with modern conveniences, one officer to each room. Enlargements of these accommodations were necessary. The nurses' quarters were at first inadequate, but this inadequacy was rectified in time.

The medical stores of the hospital were kept in a frame warehouse, situated at the western edge of the hospital grounds. The office of the base hospital property officer was located at this warehouse. Property was arranged on the shelves according to the Manual for the Medical Department, which calls for the separating of medicines, stationery, miscellaneous, X-ray, laboratory, and additional articles. Surgical instruments, narcotics, poisons, and liquors, were kept under lock at all times. A refrigerator was used to store all biological and perishable articles. A clean and orderly warehouse was maintained.

The family style of service in the officers' mess and nurses' mess was used at the patients' mess—one service to eight patients. The food was properly cooked and the variety was the best possible under the conditions of the market. The mess was supervised by the mess officer and a sergeant first class. A daily inspection of the food served at the three meals was made by the mess officer, who tasted all food served. The kitchen personnel consisted of a sergeant in charge, five cooks, three cooks' helpers, and the "kitchen police." Patients who were able to do so marched to the mess hall from their respective wards, accompanied by an attendant. They entered the hall single file and stood at their places until seated by command. They were required to remain at the table at least 20 minutes, but they were permitted to remain longer if they desired.

The diet kitchen connected with this mess was in a separate room. The personnel connected with it consisted of 2 dietitians, 2 cooks, and 6 kitchen police. The food going out to the wards was served in tins or containers, each of which had a cover. The containers, filled and ready for transportation to the wards, were placed in large trays containing hot water.

The baking for the different messes was done by two bakers, at night, in the patients' mess.

The family style of service was employed in the detachment mess, as in the other messes, one service to eight men; and this mess was supervised by the mess officer and a sergeant first class, as in the patients' mess. The kitchen personnel consisted of six cooks, two cooks' helpers, and kitchen police. The men marched into the mess hall in single file, standing at their places until seated by command.

In connection with these messes a training department was conducted at the "old base," the mess of which was supervised by the mess officer and furnished with supplies as in the case of the others. The personnel of this kitchen consisted of three cooks and four kitchen police.

The hospital water supply was derived from a deep, drilled well, situated about 500 feet south of the hospital grounds, and equipped with a turbine pump driven by a 50-horsepower electric motor. The capacity of the pump was 200 gallons per minute, filling a tank, located on a 50-foot tower built on high ground, and having a capacity of 200,000 gallons. This tank furnished the necessary pressure and afforded a direct supply of water to the hospital. There was no filter and no sterilization process; the bacteriological analysis of the water showed a very small count. This well was for the hospital use alone, but before it was completed the hospital received its water supply from wells that supplied the remainder of the camp.

The sewer system, which was independent of the camp sewer system, consisted of a 10-inch main, 1 mile in length, running, with a drop of about 12 feet, to the Mimbres River. A large septic tank partially purified the sewage before it entered the river. The hospital buildings were connected with the 10-inch main by 6-inch laterals.

The waste from the kitchen was disposed of by the reclamation service. The trash and other waste was placed in galvanized iron containers and burned at a dump, together with manure from the stable.

Before the sewer system was constructed bathing facilities were furnished by means of shower baths in small buildings adjoining the wards, the waste water running out into ditches. Because of the low temperature in the mornings and late afternoons, and the lack of hot water, bathing was limited to the middle of the day. While somewhat uncomfortable, it was not shown that shower bathing under such circumstances was injurious to health. Subsequently each ward had its own lavatory, with well-equipped tub and shower baths, and the other buildings had ample facilities of this kind.

When the hospital buildings were first occupied the heating facilities were exceedingly primitive. A small sheet-iron stove, officially designated as "wood No. 18," was placed in each end of the ward. Being entirely inadequate, these were soon replaced by large drum stoves (room heaters, No. 18

and No. 20). These added to the difficulty in keeping the wards clean, but they served the purpose of keeping them warm. Steam heat was never installed.

The hospital was electrically lighted from the beginning, being served by the Deming Electric Light Co. The service at first was not very satisfactory, but improved with time.

The laundry work of the hospital was formerly done by outside laundries. In May, 1918, a full steam laundry equipment was donated by a resident of Silver City, N. Mex., for the use of the base hospital for the duration of war. He also gave his services as manager. After July 1, 1918, the laundry washed all the hospital linen and never missed delivering clean linen to each ward daily, except Sundays. In addition, large quantities of work were done for the camp quartermaster and the conservation and reclamation branch of the Quartermaster Corps, at a great saving to them. The clothes of the patients in the hospital were washed every day free of charge. Judging from the prices that would have been charged by an outside firm, the hospital laundry showed a saving of $4,260.44 for the first three months of its operation.

During the period (prior to September 1, 1917) when the hospital was designated a camp hospital, and when it had seven wards, the hospital equipment was in proportion. One end of the ward was partitioned off as a storeroom for both medical and quartermaster property. Practically the only medical stores held in stock were the bedding and patients' clothing, for changes of laundry, and a supply of stationery. The wards were fairly well equipped and the surgical department had just such instruments and appliances as were necessary for handling incoming cases.

Pending the construction of the new base hospital, ward tents were erected, greatly taxing the limited equipment on hand. Some of the necessary drugs and medicines were practically unobtainable. Later, as the new hospital was completed, and the work of moving began, the hospital equipment became altogether inadequate. October, November, and December, 1917, were undoubtedly the hardest in the history of the hospital. Patients not seriously ill brought their own cots and blankets. Drugs and general medical supplies could not be furnished in the large quantities required. Very few modern appliances were in use, and it was necessary to introduce many methods in order to obtain the desired results without the requisite surgical appliances and modern equipment. But with the beginning of the year 1918 conditions began to improve, and ultimately the base hospital at Camp Cody became modern and efficient in its equipment in every department and in all details.

On October 17, 1917, the post exchange was started on credit extended by Deming firms. New features were added from time to time, until the exchange embraced a store department, three barber shops, a tailor shop, pool hall, recreation room, and laundry at the new base hospital, and a general store, pool room, and barber shop at the "old base." In all the departments about 30 men were on duty. An average of 50 cents a day was paid them. The average monthly business of the exchange was about $17,000, with a profit of about $1,700. The exchange was free from debt, but did not declare a dividend, although from time to time a sum was set aside and used for the benefit of the hospital, as allowed by exchange regulations.

The Young Men's Christian Association building was completed and ready for occupancy October 1, 1918. It had an auditorium, 110 by 45 feet, and a social room, 36 by 36 feet. It was painted steel gray and trimmed in light green, the colors offering a striking contrast to the groups of unpainted barracks in the northeast area of the hospital grounds, near which the building was situated. The equipment for the daily entertainment of the men consisted chiefly of checkers and chess boards, pianos, victrolas, and a moving-picture machine. During the emergency of the influenza epidemic the building was turned into a hospital ward, the secretaries giving their assistance in the care of the patients. After the epidemic subsided, weekly programs covering athletics, social, educational, and religious activities were given, which did much toward keeping up the morale of the men. At regular times mass services were conducted by the priest, and Sunday services were conducted by the chaplains in the auditorium.

The American Red Cross building, constructed and furnished at a cost of $25,000, was a pleasing variation to the hospital architecture. It was a two-story structure, built in the form of a cross. The main part of the lower floor was occupied by an auditorium, with a stage, where various entertainments were given for convalescent patients and their friends. Here the patients, the men, and officers might read, write, or play games and feel perfectly at home. The hospital branch of the American Library Association was installed here, and there was a special reading room with professional literature for the medical officers attached to the hospital.

Another valuable feature of the institution, especially appreciated because of the comparative isolation of Deming, was the arrangement for the temporary housing of the relatives of the dangerously sick who came from far away. Twelve rooms were available for this purpose.

The Red Cross built a nurses' house adjacent to their quarters, which could be used for a lounging and rest room or for dancing. A weekly dance given by the nurses served to break the monotony of their routine duties, remote from even a small city. This building, furnished, cost $12,000.

Opposite the administration building the Red Cross built, at a cost of $2,500, a pass and information bureau, in which a part of the administrative work of the hospital was conducted.

All these buildings with their equipment were turned over to the Government and were directly under the control of the commanding officer of the hospital.

In addition to the recreation activities provided by the Red Cross and the Young Men's Christian Association, other sports were fostered and supervised by an athletic officer, appointed for the purpose, who had charge of the athletic training of the men. From time to time boxing and wrestling tournaments were held.

A swimming pool was built by the hospital corps men with the assistance of the Red Cross. The pool, which was of reinforced concrete, was 90 feet long, 40 feet wide, and 9 feet deep at the lower end. A constant change of water took place, and, in addition, the water was disinfected with chloride of lime. All persons were obliged to take a soap and shower bath before entering the pool.

There were five cement and one dirt tennis courts at the hospital, so managed that everyone had opportunity to play.

A baseball and football field was located to the extreme east of the grounds. The boxing and wrestling bouts were held in a regulation 16-foot ring, which was well made and so placed that about a thousand spectators could enjoy the sport.

Statistical data, United States Army Base Hospital, Camp Cody, Deming, N. Mex., from September, 1917, to April 10, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	......	22	312	38	372	192	2	6	......	......	......	......	39	133	......	2,423	......
October	133	19	827	73	1,052	479	2	43	......	......	......	9	20	499	......	8,321	......
November	499	2,708	......	9	3,216	1,826	10	169	......	......	......	5	9	1,197	......	28,646	......
December	1,197	2,264	......	26	3,487	2,164	53	253	......	......	1	2	26	988	......	31,976	......
1918.																	
January	938	1,198	......	20	2,206	1,033	44	147	......	......	......	5	40	937	......	29,893	......
February	937	863	......	19	1,819	785	35	117	......	......	......	9	46	827	......	25,111	......
March	827	672	......	16	1,515	618	18	142	......	......	......	2	24	711	......	23,859	......
April	711	581	......	......	1,292	615	29	92	......	......	......	4	19	533	......	12,464	......
May	533	606	......	6	1,145	551	5	59	......	......	1	6	13	510	......	11,563	......
June	510	1,137	......	11	1,658	1,045	15	39	......	......	3	5	9	542	......	23,990	......
July	542	591	......	12	1,145	579	7	11	......	......	......	20	10	518	......	16,427	......
August	518	620	......	32	1,170	660	13	25	......	......	......	7	28	437	......	20,141	......
September	437	294	......	13	744	318	1	45	1	......	......	......	36	343	......	10,871	......
October	343	2,578	......	72	2,993	792	52	12	......	......	......	......	61	2,076	......	25,943	......
November	2,076	901	......	13	2,990	1,944	194	9	......	......	......	14	49	780	......	35,786	......
December	780	218	......	24	1,022	755	13	23	......	......	......	9	23	199	......	13,082	......
1919.																	
January	199	184	......	16	399	207	1	22	......	......	......	2	14	153	......	5,405	......
February	153	192	1	3	349	218	2	......	......	......	......	9	8	112	......	3,772	......
March	112	135	......	16	263	151	5	18	......	......	......	46	4	39	......	1,865	......
April	39	6	......	1	46	26	......	......	......	......	......	18	2	......	......	279	......

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	25	2	....	27	153	....	153	....
October	32	2	....	34	153	....	153	13
November	38	2	....	40	267	....	267	22
December	66	3	1	70	294	....	294	32
1918.								
January	83	2	....	85	358	....	358	78
February	81	3	....	84	358	....	358	92
March	84	2	....	86	341	20	361	92
April	77	3	....	80	478	20	498	91
May	71	2	....	73	523	20	543	90
June	68	2	....	70	519	20	539	95
July	60	5	....	65	377	19	396	101
August	69	5	....	74	369	18	387	100
September	53	6	3	62	351	18	369	89
October	57	8	3	68	373	18	391	80
November	61	5	1	67	395	17	412	103
December	37	4	3	44	393	16	409	102
1919.								
January	32	2	2	36	357	7	364	96
February	31	2	2	35	221	7	228	31
March	9	1	....	10	110	7	117	6
April	....	....	....	....	....	....	....	5

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP CUSTER, MICH.[a]

The base hospital of Camp Custer was favorably located in the county of Kalamazoo, in the State of Michigan, and approximately 7 miles from the civic center of Battle Creek, Mich. The country is rolling, with scattered wooded tracts. The soil is loam and fine gravel and sand, the latter predominating. The site is located on the medial moraine of glacial drift. There is almost no mud, but much wind which stirs up a good deal of the sand, making considerable dust. The winters are quite severe for about three months of each year, the temperature not infrequently dropping as low as 20° below zero. The prevailing winds are from the southwest. Spring often begins early, but the frequent relapses of winter, and often cold, rainy days, with occasional mild days interspersed, necessitate some fire for comfort until June. Throughout the spring and well into summer hot sultry days may alternate with chilly and windy ones. The autumns have many beautiful days, but there may be several weeks of rainy chilly weather. The summer days are warm; the nights are generally cool. The hospital was on a hill directly overlooking Eagle Lake, and was subjected to moderately high winds in winter and spring. The roads were of earth, gravel, and cinders. A concrete road extended from just beyond the hospital receiving ward to the camp.

The hospital was opened for patients on September 5, 1917, a tent being used near the temporary headquarters of the camp. On September 17, two partially completed ward buildings of the new hospital were available; and the base hospital, its detachment, Medical Department, and 24 patients, were moved into these wards. Cases of contagious diseases were temporarily cared for in tents erected contiguous to the ward buildings. As rapidly as new buildings were completed they were occupied, for the patients arrived as fast as adequate space for their reception was obtainable.

The function of this hospital was to treat all cases arising at Camp Custer, and medical, surgical, and venereal cases from overseas. The training of personnel for further duty at home and overseas was a part of the function of the hospital before the armistice.

The hospital wards, 38 in number, conformed to the standard designs for a northern climate. During 1918 the following construction was completed: Additional nurses' quarters and 4 dormitories, 10 two-story ward-barracks, a refrigerating plant, a kitchen and mess hall for the enlisted men; 2 barracks and two additions to the general mess. At the end of the year there were in course of construction an addition to the administration building, the laboratory, the operating pavilion, a garage, nine new wards, a prison ward, and an umbrella corridor connecting the nurses' quarters and the main hospital. A Red Cross house for convalescents and a Young Men's Christian Association hut were also added.

Officers, enlisted men, and nurses were quartered in the regulation buildings provided for the purpose. The crowded conditions which obtained in the earlier days were overcome by the construction of additional quarters during 1918.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Custer, Mich.," by Lieut. Col. Ernest E. Irons, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The storehouses were completed promptly, but great difficulty was encountered because of the lack of shelving at first, and only a minimum amount of shelving was obtained. The storehouses were the last buildings to be equipped with steam heat.

The hospital kitchen was not ready for occupancy at first; consequently, the cooking for both enlisted men and commissioned personnel was done in the open on a field range, underneath a tent fly. Later, the cooking for both classes was done in one kitchen; still later, the portion of the main kitchen designed for a diet kitchen was used in which to cook for the officers' mess; and the detachment mess was separated from the patients' mess. Subsequently, the officers' mess was moved to the officers' quarters.

The following criticisms were made of the construction and equipment of the patients' kitchen: The floor was not impermeable; on the contrary, it was made of green 6-inch lumber which shrank and warped after short use. It was impossible to keep it clean. The wing off the kitchen, shown in the original plans as a bakery, was never built at this hospital, although it was built at other camps and used as a kitchen storeroom. The storage space in the patients' kitchen at this hospital was inadequate from the beginning.

The laundry building was equipped with a drying room, a steam disinfector, and a few laundry baskets. The incomplete equipment of the hospital laundry was met by daily service by the camp laundry. It was necessary, however, to send nurses' uniforms which required ironing to Kalamazoo. A double check was kept on all linen and an inventory taken each week.

The hospital water supply was received from the water system installed in Camp Custer. The water was piped across Kalamazoo River from deep wells in Marshall sandstone. This is a water-bearing stratum 30 or more feet in thickness, situated below a layer of sand and fine gravel varying in thickness from 30 to 50 feet. The average depth of these walls was approximately 110 feet. The water rose in them to within a few feet of the surface, so that electrically driven centrifugal pumps were successfully used. The water was of high quality, but the pipes were fouled during the crossing of the river and the laying of the mains, and liquid chlorine prophylaxis under laboratory control was employed at first.

The sewerage system of the hospital was water borne and passed through sedimentation tanks into the Kalamazoo River, which received also the sewage from Battle Creek, Kalamazoo, and Augusta.

A garbage house 8 by 20 feet, with cement floor and screened windows, was constructed in the rear of the kitchen. To this house garbage was brought from each ward and mess, weighed by an inspector, sorted over, and weights and contents noted. This report was then typewritten and sent to the desk of the mess officer, the dietitian, and the commanding officer. Undue waste from any ward or mess was noted and comment made locally, or at officers' call. By thus fixing individual responsibility the daily waste of edible food was reduced to as low as 0.17 ounce per ration per day. The waste in the detachment mess was as low as 0.06 ounce per person. The garbage, except that from the contagious-disease wards, was hauled away in cans and turned over to a contractor. Sputum cups and articles containing discharges of a similar nature were collected in a pail, lined with newspaper, and burned in the furnace, as were the infected dressings. Garbage from isolation wards was separated and burned.

Lavatories and baths were connected with the sewer, all fixtures being separately trapped and provided with cast-iron soil piping, which connected with the trunk sewer.

The heating plant consisted of 10 shell boilers 150 horsepower each. The buildings were all steam heated by a one-pipe low-pressure system with no returns. The system was adequate to give ample heat throughout the hospital, with the exception of the new nurses' quarters and the two-story barracks. The inadequacy of the system in this respect was said to be due to the fact that there was no return system. Without exception the original hospital buildings were provided with more radiation than was essential.

The hospital was lighted throughout by electricity, commercially obtained, the system proving satisfactory.

The initial equipment was incomplete as regards instruments, dental apparatus, and ward equipment. Since it was possible to treat patients and administer to their needs by the use of emergency equipment purchased locally, all patients were cared for satisfactorily. Sufficient equipment was eventually obtained.

On September 20, 1917, the base hospital exchange was started on Harmonia Road, in the east end warehouse, with a lot of goods, costing $100. The exchange proper was opened in building 1836 on October 1, 1917. The exchange prospered, the business transacted being satisfactory as to both profits and patronage. It was a distinct asset to the hospital and filled a real want in satisfying the needs of soldiers, patients, and their relatives.

During the early winter of 1917 ward 20 of the base hospital was opened for recreational purposes and was in charge of a private detailed for the purpose. On December 26 a secretary of the Young Men's Christian Association assumed charge. The work was carried on in this ward until January 24, 1918, when it was necessary to move to the base-hospital exchange, on account of the crowded condition of the hospital. Subsequently a new Young Men's Christian Association building was opened. It proved extremely valuable and was much used.

The Red Cross house for convalescents was opened in April, 1918.

Through the cooperation of the Red Cross and Knights of Columbus, Edison and Victor graphaphones were placed in nearly all wards. Sunday afternoon entertainments were given in the wards under the auspices of the Young Men's Christian Association and the Knights of Columbus and by visiting groups of interested entertainers. Afternoon band concerts in the patients' mess hall were frequently given, and the Young Men's Christian Association furnished at least three evening entertainments a week, in addition to their Sunday evening religious concert and service. Quoits, checkers, chess, and other games were distributed; and in favorable seasons the enlisted men played baseball.

An orchestra was organized in the early days of the hospital and proved so successful as to warrant official recognition and encouragement. Assistance was given it from post exchange funds, instruments were purchased, and time off was allowed the members for practice. A band of 26 instruments was developed.

The Daily Bulletin, a single sheet, mimeographed daily paper, was issued, with some intervals, from August 5, 1918. Its object was to keep the patients and the personnel informed as to official news, announcements of the Red Cross, Young Men's Christian Association, and Knights of Columbus, to improve the morale, and to stimulate an esprit de corps.

Statistical data, United States Army Base Hospital, Camp Custer, Battle Creek, Mich., from September, 1917, to March, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.														
			By transfer.	Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
September	0	16	156	1	173	80	4	3	.....	.....	.....	1	5	79	1	900	9
October	80	420	39	1	540	270	2	2	.....	.....	.....	.....	3	262	1	5,499	41
November	263	574	15	4	856	493	2	2	.....	.....	.....	.....	12	347	.....	11,862	.....
December	347	843	12	7	1,209	679	3	7	.....	.....	.....	103	38	374	5	12,995	43
1918.																	
January	379	1,782	49	2	2,212	1,083	10	5	.....	.....	.....	115	55	944	.....	24,210	46
February	944	1,378	59	7	2,388	1,345	19	5	.....	.....	.....	187	2	821	9	25,343	133
March	830	1,229	56	11	2,126	1,304	21	2	.....	.....	.....	51	19	725	4	22,531	132
April	729	1,524	60	3	2,316	1,281	35	10	.....	.....	.....	169	15	796	10	24,296	130
May	806	1,323	23	4	2,156	1,153	24	19	.....	.....	.....	281	8	666	5	24,896	140
June	671	1,132	13	10	1,826	940	6	16	.....	.....	.....	194	23	640	7	22,302	122
July	647	1,232	32	4	1,915	910	6	22	3	.....	.....	301	10	659	4	20,225	106
August	663	1,083	4	8	1,758	1,186	5	18	.....	.....	.....	148	10	388	3	16,407	29
September	391	3,114	9	.....	3,514	929	8	30	2	.....	.....	48	10	2,483	4	18,130	40
October	2,487	7,781	.....	.....	10,268	7,926	661	14	3	.....	.....	23	60	1,569	12	10,864	8,651
November	1,581	847	3	.....	2,431	1,830	19	6	2	.....	.....	7	36	513	18	2,876	1,457
December	531	1,157	92	.....	1,780	1,120	8	10	.....	.....	.....	5	24	605	8	16,824	386
1919.																	
January	613	1,196	734	.....	2,543	1,777	10	2	12	.....	.....	20	7	708	7	16,345	239
February	715	645	463	.....	1,823	1,017	7	.....	1	.....	.....	15	11	767	5	20,347	172
March	772	616	189	.....	1,577	922	.....	2	.....	.....	.....	12	23	618	.....	13,205	.....

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					**1918.**				
September	0	.....	.....	0	July	7	11	.....	18
October	0	.....	.....	0	August	0	13	.....	13
November	1	4	0	5	September	0	14	.....	14
December	4	4	0	8	October	3	137	1	141
1918.					November	0	13	.....	13
January	4	4	.....	8	December	0	10	.....	01
February	4	4	.....	8	**1919.**				
March	4	4	.....	8	January	0	15	.....	15
April	4	4	.....	8	February	0	21	0	21
May	0	8	0	8	March	0	31	.....	31
June	7	11	0	18					

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Custer, Battle Creek, Mich., from September, 1917, to March, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.		
1917.									
September	46	2	1	49	132	....	132	....	....
October	46	2	1	49	132	....	132	11	....
November	69	2	1	72	268	....	268	48	....
December	69	2	1	72	268	....	268	48	1
1918.									
January	65	3	1	69	411	17	428	67	....
February	67	3	1	71	409	17	426	105	1
March	80	2	2	84	398	20	418	105	1
April	79	2	2	83	503	20	523	105	1
May	82	2	2	86	570	19	589	144	1
June	68	2	1	71	553	19	572	155	....
July	83	2	1	86	519	18	537	167	....
August	84	3	1	88	511	18	529	173	....
September	66	3	1	70	466	17	483	138	1
October	107	4	2	113	845	15	860	191	....
November	100	4	2	106	708	17	725	212	....
December	73	5	2	80	688	17	705	206	....
1919.									
January	67	5	2	74	651	24	675	117	....
February	71	6	3	80	653	28	681	103	....
March	59	8	3	70	428	27	455	95	....

BASE HOSPITAL, CAMP DEVENS, MASS.[a]

The hospital was located in Middlesex County, Mass., 14 miles from Fitchburg and 2½ miles from Ayer. The country is rolling, and wooded with second-growth trees, mostly hardwood of small size. The soil, for the most part, is gravelly, but shows the variety common to glacial drift. There was no high-flying dust about the hospital in dry weather, nor sticky, easily carried mud after rains. The climate is characteristic of New England, moderately cold in winter, moderately warm in summer, with frequent changes and considerable sunshine. The hospital site was not exposed to excessive wind. The roads about the base hospital were well kept. The main highways were of the best construction under State control; the county roads were of gravel or dirt.

The Nashua River bordered the hospital grounds on the west, at a distance of a quarter of a mile. This stream was polluted by sewage from towns above. There was some low-lying land on the border of the stream, and there were several small ponds within half a mile of the hospital.

The base hospital was organized the last week in August, 1917, and the first building was occupied August 10, 1917.

The hospital treated all cases arising at Camp Devens, and medical, surgical, and venereal cases from overseas.

A building, located near the center of the cantonment, was maintained by the insurance company as a first-aid station and infirmary for construction employees. It had six beds. Serious cases were sent to Boston.

The buildings constituting the base hospital were distributed in the form of a fan, radiating from the administration building toward the northwest.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Devens, Mass.," by Maj. W. B. Lancaster, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

There were three rows of medical wards, one row of isolation wards, and a psychiatric group toward the left of the administration building, and three rows of surgical wards to the right, with the administration building, the post exchange, and the main kitchen between the medical and surgical groups. The enlisted men's barracks, the storehouses, garage, shops, and heating plant were to the northwest of the surgical group. Twelve two-story wards were added on the east of the surgical wards. Other construction was added from time to time, in various parts of the hospital.

At the beginning, officers as well as enlisted men, were quartered in buildings which were subsequently used as the men's barracks and the storehouses. The building primarily intended for the officers' quarters was converted into a building for head surgery, necessitating the construction of a new building for officers' quarters. Additional quarters were constructed as the commissioned personnel increased in number. The nurses' quarters were inadequate at first, but additional quarters were provided later. The enlisted men of the detachment were quartered in eight barracks.

The cooking for the patients was done in a central kitchen, which, with an auxiliary diet kitchen, had a capacity for 1,500 or more. An additional dining room was built, so that it would not be necessary, as in the beginning, to have first and second tables. The kitchen, however, was too small, having been designed for a much smaller mess. There was a kitchen and mess for the hospital detachment, Medical Department, in a building adjoining their barracks, which had a capacity of about 200, but at which 300 or 400 were fed under satisfactory conditions.

The nurses maintained a separate kitchen and mess. This also was overcrowded at first because the number of nurses on duty was considerably larger than either the nurses' quarters or the nurses' kitchen and mess were planned to accommodate.

The officers' ward had a separate kitchen and mess, with a capacity considerably larger than the requirements of the sick officers demanded; so, for many months, all officers of the hospital were fed at a mess maintained in the officers' ward. Subsequently a new wing was added to the officers' quarters with a larger kitchen and a seating capacity of 120.

The messes for the patients, the hospital detachment, and the nurses were maintained on the Government ration, but the enlisted men's mess received a liberal addition from the hospital fund and the post exchange, bringing it up nearly to the ration for the patients.

The building intended for the hospital laundry was not used for this purpose because it was not equipped with laundry machinery. All the laundry for the hospital was done outside the camp by firms in cities 30 or 40 miles distant. The laundry was collected in a central building in the camp from which it was distributed. This arrangement was very unsatisfactory.

There were four storehouses, one of which was used for the hospital medical supply, the other three for the camp medical supply. They were buildings similar in dimensions to the wards and barracks, but were arranged with shelves inside and each had a wide platform outside, running the full length, for convenience in loading and unloading.

Shower and tub baths were connected with each ward. There were several shower baths, but no tubs, in each of the enlisted men's latrines. The water for the shower baths in these latrines was heated during the winter by steam from the heating plant. High-pressure steam was connected later with these lavatories. The officers' quarters were equipped with shower baths and tubs, and the nurses' quarters with tubs but no shower baths.

A central boiler house, located at the lowest part of the hospital area, had a capacity of 14 or more boilers. The steam was conducted by overhead piping, well insulated, to all parts of the hospital, with the exception of the 12 two-story wards, for which a separate heating plant was constructed. The system provided for conveying the steam from the boilers to the radiators, and the water of condensation was allowed to escape through exhaust pipes which emptied upon the surface of the ground, just without the buildings. The heating system worked well and proved entirely adequate even during an unusually severe winter. The consumption of coal was as high as 85 tons a day in winter and about 5 tons a day in summer. The building for surgical operations had an independent heating unit, installed to provide heat for warming the building and for sterilizing materials before the central plant was constructed. It also provided against a possible breakdown in the central heating arrangements. This auxiliary plant proved very satisfactory. Without it the surgical service would have been seriously handicapped during the early months of its existence.

The water supply of the base hospital was identical with that of the camp. It was derived from a group of wells in a favorable location northeast of the camp. Owing to the possibility of surface water finding its way into some of the wells, chlorination was adopted as a precautionary measure.

The hospital had a complete gravity system of sewerage. There were water closets in all the wards, and three latrines adjacent to the men's barracks. Pit latrines were temporarily established at various points on the hospital area for the use of the construction employees and also, in the days before the sewerage system was completed, for the use of the officers and men of the hospital. There was a filtration system near the river for the purification of sewage before its final outlet into the river.

Garbage from the various kitchens and wards was divided into edible and inedible waste, and was weighed so as to keep track of the waste from each ward and kitchen. The garbage was collected daily and transported to a central station where all the garbage of the camp was handled by a contractor. Manure from the stables was hauled away daily and loaded upon a car at the railroad siding.

The hospital was lighted by electricity obtained from the general camp supply, which, in turn, was derived from a hydroelectric station on the Connecticut River, about 75 miles distant. The supply was steady and adequate. The current was 60-cycle, alternating 110-220 volt, to which it was stepped down by means of transformers placed where the high tension lines entered the hospital grounds. Lighting was accomplished by standard watt volt mazda lamps, with a few larger lamps where extra light was required. In the library the recreation rooms and the ophthalmic department, special units of larger power, properly shaded, were installed.

During October, 1918, a building was erected by the American Red Cross Society for the conduct of occupational therapy for convalescent patients. In December the first group of reconstruction aides, 14 in number, arrived. Progress was made in the work, especially among those confined to bed, but lack of teaching personnel hindered the full development of this branch of the work.

In August, 1917, the post exchange was opened. Owing to the large number of workmen who patronized it during the construction period a fund was rapidly accumulated and the exchange placed on a staple basis.

The Young Men's Christian Association was located opposite the enlisted men's barracks, and was connected with the wards by a covered corridor. This building was used by both the enlisted men and the patients. Basketball and other indoor sports were carried on during the winter; an hour, twice a week, being reserved for the officers. Entertainments of some sort, such as moving pictures, addresses, concerts, or dramatic entertainments, were given there nearly every evening. On Sundays religious services were held, by the chaplain or some visiting clergyman, in this building.

The Red Cross building adjoined the part of the hospital where convalescent wards were, and was intended for the use of patients of the hospital. The Red Cross aided the hospital in many ways. A representative called biweekly on the commanding officer to afford financial or other assistance. The patients were visited in the ward and were assisted with their correspondence, the Red Cross representative serving as a medium of communication between patients and their homes.

Baseball and tennis games afforded the principal forms of amusement.

The American Library Association furnished the material and equipment with which to convert the chapel into a library for the use of the enlisted men and the patients. A librarian was placed in charge and 3,000 volumes and a large number of periodicals were filed. The library association also supplied games, puzzles, etc., for the patients.

Statistical data, United States Army Base Hospital, Camp Devens, Ayer, Mass., from September, 1917, to July, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.				
			By transfer.	Otherwise.										Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
September	......	58	162	260	480	104	1	3	.....	.....	.....	3	1	368	......	971	......
October	368	9	58	533	968	610	3	3	.....	.....	.....	.....	1	351	......	5,479	......
November	351	1,192	41	5	1,589	1,122	4	9	1	.....	.....	3	4	446	......	12,136	......
December	446	2,112	3	19	2,580	1,928	4	13	.....	.....	.....	1	17	617	......	20,109	......
1918.																	
January	617	2,030	1	13	2,661	1,769	9	33	.....	.....	.....	.....	12	838	......	21,570	......
February	838	1,660	4	13	2,515	1,615	10	21	1	.....	.....	1	15	852	......	23,579	......
March	852	2,623	10	28	3,513	2,202	15	44	.....	.....	.....	215	22	1,015	......	24,347	......
April	1,015	2,335	25	39	3,414	1,987	31	18	.....	.....	.....	344	33	1,001	......	26,828	......
May	1,001	1,789	7	29	2,826	1,259	17	20	.....	.....	.....	433	22	1,075	......	25,238	......
June	1,075	1,654	10	39	2,778	1,318	13	33	.....	.....	.....	229	14	1,171	......	23,943	......
July	1,171	1,468	7	21	2,667	1,324	8	25	.....	.....	.....	302	23	985	......	25,255	......
August	985	2,059	10	66	3,120	1,607	11	34	.....	.....	.....	199	24	1,245	......	30,538	......
September	1,245	10,951	3	119	12,318	6,924	652	15	.....	.....	.....	427	120	4,180	......	92,538	......
October	4,180	2,200	1	20	6,401	1,994	135	15	.....	.....	.....	2,483	54	1,720	......	50,603	......
November	1,720	1,460	2	12	3,194	1,597	23	10	.....	.....	.....	667	38	859	......	26,961	......
December	859	1,164	300	14	2,337	1,363	19	10	.....	.....	.....	87	20	838	......	25,076	......
1919.																	
January	838	1,165	499	13	2,515	1,520	7	5	.....	.....	.....	61	9	913	......	24,235	......
February	913	840	253	10	2,016	1,282	6	6	.....	.....	.....	37	7	678	......	13,876	......
March	678	658	530	5	1,871	1,004	9	8	.....	.....	.....	57	6	787	......	18,163	......
April	787	1,136	225	16	2,164	1,111	14	3	.....	.....	.....	78	13	945	......	27,676	......
May	945	461	232	17	1,655	949	3	3	.....	.....	.....	71	14	615	......	24,084	......
June	615	301	2	13	931	516	2	.....	.....	.....	.....	129	18	266	......	13,492	......
July	266	395	......	10	671	427	1	7	.....	.....	.....	39	23	174	......	5,733	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Devens, Ayer, Mass., from September, 1917, to July, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
September	2			2	September	2	13		15
October	5	46		51	October	1	28		29
November	4	53		57	November	1	26		27
December	8	57		65	December	1	10		11
1918.					1919.				
January	9	68		77	January	1	10		11
February	6	83		89	February		10		10
March	4	131		135	March		11		11
April	4	134		138	April		11		11
May	4	134		138	May	1	44		45
June	4	146		150	June	1	31		32
July	4	154		158	July	0	10		10
August	6	164		170					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	48			48	249		249	
October	48			48	257		257	34
November	50	4	1	55	282		282	52
December	70	3	1	74	392		392	51
1918.								
January	75	3	1	79	377	17	394	54
February	71	6	1	78	545	17	562	67
March	72	3	2	77	433	17	450	119
April	75	2	2	79	422	17	439	160
May	70	2	2	74	428	17	445	134
June	74	3	2	79	472	17	489	124
July	85	5	1	91	540	22	562	135
August	66	4	1	71	683	18	701	128
September	146	6	3	155	940	19	959	126
October	86	4	3	93	924	17	941	507
November	88	4	3	95	916	18	934	241
December	70	9	3	82	617	18	635	160
1919.								
January	70	7	3	80	590	17	607	120
February	63	7	3	73	556	16	572	112
March	52	5	4	61	519	17	536	109
April	58	5	5	68	500	17	517	93
May	47	6	6	59	410	2	412	89
June	35	5	5	45	259	2	261	62
July	22	3	2	27	170		170	31

BASE HOSPITAL, CAMP DIX, N. J.[a]

Camp Dix, together with the base hospital, which it included, was located at Wrightstown, N. J., 21 miles southeast of Trenton, N. J., and 31 miles northeast of Philadelphia, Pa. The site of the camp is slightly rolling, surrounded by farming country, with some woodland to the east.

The soil is sand, mixed with clay, with strata of loam. There is no high-flying dust in dry weather. The soil is white and muddy after about two days of rain, but dries up in three or four days. The mud formed is not sticky.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Dix, N. J.," by Maj. Andrew F. McBride, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The climate is moderate. It is warmer in winter than that of either Philadelphia or New York, with less snow and rain than falls in these cities. The summers are pleasant. The prevailing wind during spring and summer is from the west; during the remainder of the year, from the southeast. The hospital was not exposed to high winds.

The roads in the hospital grounds were of concrete; but previous to June, 1918, there were no roads, and great difficulty was experienced during the part of the winter of 1918 in bringing supplies into the hospital, as no motor vehicles could enter the grounds. Roads in the surrounding neighborhood were of dirt, with the exception of one service road to Trenton and one to Philadelphia. All roads were in very bad condition. There were no streams of any size in the immediate neighborhood. The sanitation of Wrightstown, N. J., the nearest village, was very bad, until the town was closed to soldiers by a camp order, in the spring of 1918. A sewer system was installed subsequently, macadamized roads were laid, and concrete sidewalks built. The condition of the town then became satisfactory.

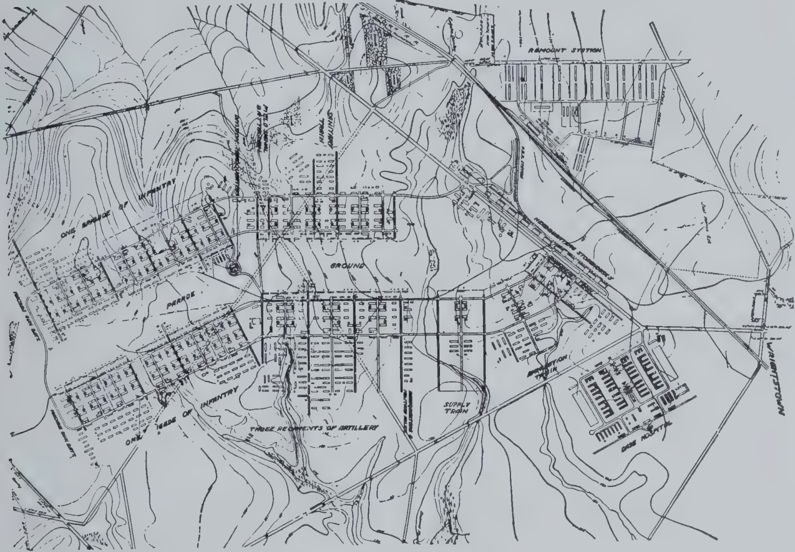

FIG. 196.—Plan of Camp Dix, showing relative position of base hospital.

The medical activities of this camp began with the arrival, on August 27, 1917, of Ambulance Company and Field Hospital No. 22, together with several casual medical officers, all from Fort Oglethorpe, Ga. At the time of their arrival a hospital for the care of sick civilians was in operation in one of the temporary buildings. This hospital continued to care for civilians and later for soldiers until a temporary field hospital was established in another camp building. It functioned as a hospital until October 22, 1917, when the base hospital was opened.

The base hospital plan, as issued by the Surgeon General's Office, was followed exactly: the character of the site permitted this arrangement.

On October 29 the first patients were received, and the patients at the temporary hospital, then numbering 249, were transferred to the base hospital. At that time the north and south wings and central section were still under construction; there was no steam heat; there were no connecting corridors; and all cooking was done in the main mess kitchen and in the kitchen of the officers' ward.

The original plans showed 26 rooms in the officers' quarters. As early as September, 1917, the commanding officer began sending requests for larger officers' quarters. These were persistently refused for several months. Additional quarters were finally authorized, construction was commenced in March, 1918, and the quarters completed the latter part of April. They were not sufficient, however, and a number of officers still had to be quartered in the officers' ward. At times these two buildings were not sufficient to accommodate all officers, and one hospital ward was used for the purpose. The original nurses' quarters were not sufficiently large, and two wards were used until the new nurses' quarters were completed, in May, 1918. The original nurses' quarters were then occupied by the nurses' training school, and the graduate nurses were housed in the five nurses' dormitories erected between March and August, 1918. The original plans showed six barracks. Two additional barracks were built, but one of the original buildings was converted into a mess hall. Each of these barracks held 74 men, but by instructions from the Surgeon General's Office, this capacity was reduced to 60, making a housing capacity of 420 men. The authorized strength of a detachment for this hospital was 650; the barracks, therefore, were entirely inadequate. The surplus men were housed in tents, in warm weather, and in the two-story barracks in cold weather, when these were not required for patients.

The large hospital kitchen was completed October 28, 1917; and from that time until February 15, 1918, all the food for patients, enlisted men, and nurses was prepared here. This mess, which was designed to cook for 1,000, frequently had to serve 2,500, and hardly proved equal to the task. Conditions were improved by adding a large number of steam cookers and roasters. The enlisted men's mess was opened on February 15, 1918, but was large enough to accommodate only the remainder of the detachment continuing to be served in the main hospital mess. An additional mess was authorized in the spring of 1918, but was not completed until August. The arrangement was very poor, as the mess was composed of two buildings connected by a narrow corridor, only one building having a kitchen. The nurses' mess was opened February 1, 1918.

Four storehouses were erected according to the original plans, and they proved sufficiently large for the use of the base hospital alone; but when the division and camp supplies were moved into them they were decidedly crowded. Additional storehouses were constructed later.

In the hospital proper, the two central rows of wards had bath and closets in the wards. The two end rows had bath and closets between wards, making four lavatories for each row of eight wards. The lavatories and baths were connected with the sewer by ordinary trap. Latrines for enlisted men's barracks were outside of the building.

The hospital was heated by means of stoves until December 12, 1917, when a low-pressure steam heating system was installed. No return system for water of condensation was authorized or installed originally, and this made heating very expensive, as much as 75 tons of coal being used in a day. A return system was finally authorized about the middle of the winter. When it was installed the ground had to be thawed by means of burning fires over it. The expense of installation at this time was at least eightfold what it would have cost when the original plant was installed.

The hospital, like the camp, was lighted by electricity, purchased from the Public Service Corporation of New Jersey.

The hospital water supply, which was identical with that of the camp, was pumped from the south branch of the north fork of Rancocas Creek, 4 miles distant, and was treated by chlorination. The color of the water was very high, and the high carbon dioxid content made it worthless for use in high-pressure boilers, as the boilers were eaten out very rapidly and the hot-water supply was continually red with the iron rust. An artesian well was sunk beside the power plant to supply water for the boilers.

The sewerage system was the same as for the rest of the camp, except that on account of a ridge between the hospital and the septic tank, it was necessary to pump the sewage to the tank.

Kitchen waste and garbage were removed by the quartermaster to a central disposal plant.

The laundry work of the hospital was originally done by a private laundry company of Philadelphia; later, it was done in a more satisfactory manner by the quartermaster, in the camp.

In the early days of the organization of the hospital there was no shortage of beds, bedding, or drugs. There was a decided shortage of mess equipment and surgical instruments, however, but they later became adequate and satisfactory.

When the construction of the hospital was begun the contractor was requested to complete the commanding officer's quarters at once, with the exception of the inside finish of the walls and floors. This was done, and the building was used as a post exchange during the construction period. The profit on sales to the workmen employed was sufficient to form a good fund for starting a hospital mess when the hospital was opened. About October 15, 1917, the permanent exchange building was occupied. It proved to be satisfactory, except that it was too small. In emergencies, when necessary articles of equipment and supplies could not be obtained within a reasonable time, they were purchased with exchange funds.

The Young Men's Christian Association building was completed in September, 1918. The construction of this building had been proposed and authorized by the Surgeon General's Office and by the Young Men's Christian Association authorities a year before; but its immediate construction was delayed through the opposition of the Red Cross representatives at the camp, their contention being that the Red Cross should handle all the work. This opposition was finally overcome, after the work of the Young Men's Christian Association, whose representatives entered the field ahead of the Red Cross, was seriously interfered with for months. Two Young Men's Christian Association representatives were assigned to the hospital and were doing excellent work from the time of its opening. Owing to the strong objection on the part of the local representatives of the Red Cross to having the Young Men's Christian Association encroach upon its field of looking after all that pertained to the patients, a hospital order was issued forbidding all patients to enter the Young Men's Christian Association building. This left the building free for the use of members of the detachment.

There were two Red Cross buildings, a large one for the patients and a small recreation building for the nurses. The work of this organization comprised chiefly the writing of letters for patients, giving entertainments for convalescents, and obtaining minor supplies for the hospital, when they could not be obtained immediately by requisition.

Various games and drills were participated in by convalescent patients. Phonographs and records were placed in wards where it seemed desirable to have them.

Statistical data, United States Army Base Hospital, Camp Dix, Wrightstown, N. J., from October, 1917, to June, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
October	......	10	249	8	267	104	2	2	......	......	......	7	......	152	......	2,093	......
November	152	13	61	351	577	220	4	12	......	......	2	83	......	256	......	5,323	......
December	256	33	50	559	898	421	3	42	......	......	......	123	1	306	2	10,341	31
1918.																	
January	308	44	104	1,015	1,471	555	3	3	......	......	......	223	3	683	1	16,750	15
February	684	55	63	1,082	1,884	805	5	10	......	......	......	371	2	690	1	18,925	9
March	691	65	91	1,842	2,689	1,677	12	20	......	......	......	256	......	724	......	25,604	......
April	724	81	74	1,945	2,824	1,374	13	21	1	......	......	358	......	1,057	......	30,103	......
May	1,057	41	35	2,589	3,722	1,975	8	39	......	......	......	373	8	1,319	......	40,838	......
June	1,319	41	5	1,851	3,216	1,577	9	83	......	......	......	314	3	1,230	......	37,863	......
July	1,230	36	20	2,563	3,849	1,816	12	108	8	......	......	237	......	1,668	......	48,453	......
August	1,668	24	10	2,625	4,327	2,642	3	131	3	......	......	111	1	1,436	......	40,893	......
September	1,436	211	14	6,282	7,943	3,222	489	97	5	......	......	634	0	3,496	......	65,452	......
October	3,496	120	4	1,914	5,534	3,559	357	63	6	......	......	195	2	1,352	......	67,373	......
November	1,352	41	55	1,208	2,656	1,496	14	66	......	......	......	35	......	1,045	......	24,277	......
December	1,045	24	309	1,183	2,561	1,184	12	27	......	......	......	32	4	1,302	......	30,313	......
1919.																	
January	1,302	37	3	2,459	3,801	2,238	20	15	2	......	1	28	6	1,491	......	31,657	......
February	1,491	32	12	1,816	3,351	1,791	5	10	1	......	......	53	6	1,485	......	42,847	......
March	1,485	46	31	1,835	3,397	1,716	6	6	5	......	......	125	5	1,534	......	45,852	......
April	1,534	23	54	989	2,600	1,315	5	2	2	......	......	194	8	1,074	......	38,408	......
May	1,074	28	262	953	2,317	968	4	6	......	......	......	173	17	1,149	......	34,179	......
June	1,149	20	5	898	2,072	1,141	5	28	......	15	176	16	......	691	......	52,018	......

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Dix, Wrightstown, N. J., from October, 1917, to June, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
October	45	5	1	51	186	....	186	....
November	59	1	1	61	186	....	186	....
December	68	3	....	71	216	....	216	2
1918.								
January	69	4	1	74	330	....	330	48
February	76	1	1	78	340	....	340	95
March	94	2	1	97	352	17	369	97
April	106	1	2	109	360	17	377	131
May	95	1	2	98	431	....	431	133
June	87	2	1	90	451	....	451	124
July	82	3	1	86	607	....	607	134
August	85	3	1	89	590	....	590	120
September	104	3	3	110	650	....	650	158
October	89	4	3	96	650	....	650	344
November	76	3	5	84	546	....	546	272
December	64	4	5	73	532	45	577	197
1919.								
January	72	7	5	84	602	43	645	170
February	69	6	6	81	592	16	608	144
March	82	6	5	93	544	58	602	142
April	72	6	7	85	516	55	571	158
May	63	6	11	80	517	38	555	168
June	57	6	7	70	399	25	424	125

BASE HOSPITAL, CAMP DODGE, IOWA.[a]

Camp Dodge was located on, and extended for about 3 miles along, the western slope of a picturesque ridge, situated just west of the Des Moines River valley. Islands of hard-wood trees, scattered here and there on both the east and west ridges, as well as along the reaches of the near-by Beaver Creek, added to the general picturesque appearance of the location. At the extreme western extremity of the cantonment, the base hospital was constructed. From here to Des Moines was a distance of 20 miles. The composition of the soil at Camp Dodge left much to be desired, considered from the viewpoint of comfort. It is composed of a thick, heavy, black loam, with a substratum of gravel. During wet weather, the lower levels of the area become tenacious in quality, and difficult to negotiate. During dry periods, however, the denuded soil was readily metamorphosed into an impalpable dust, which, whipped by the prevailing strong winds of the valley, became veritable dust storms that occasioned concern.

The hospital was surrounded by well-kept concrete roads; but aside from these cantonment roads, the usual dirt country roads were to be found. South of the hospital, and immediately adjacent to it, was the village of Herrold, the sanitary condition of which was under the control of the division sanitary inspector.

The function of the base hospital was to treat all cases arising in the camp and medical, surgical, and venereal cases from overseas.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Dodge, Iowa," by Lieut. Col. J. R. Shook, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

When the hospital was organized, August 28, 1917, the division commander (88th Division) gave the use of two of the Government-constructed two-story cantonment barracks. One of these buildings was used for barracks for officers and for the administrative offices of the hospital; the other was used for wards. This ward building was rapidly filled, and a third two-story barracks building was added. Patients were admitted so rapidly at this time that a division of the buildings into special wards became necessary; and within a few days more buildings were added, until 10 two-story barrack buildings were being used exclusively as wards. The officers' quarters were moved out of the barracks, the officers then being quartered in regular officers' quarters. These 11 buildings were used until the latter part of October, 1917.

The cantonment contractor furnished an emergency hospital for the employees. It consisted of a well-equipped hospital tent, under the charge of civilian surgeons. At a later date it was moved into a brick building, and remained under the charge of civilian physicians and surgeons.

On October 28, 1917, the patients were moved from the temporary to the permanent base hospital. At that time 19 wards were completed. Additional wards were equipped and occupied as need arose.

When the base hospital was opened the officers were quartered in three officers' barracks, each building having a capacity of 31 officers. These buildings had independent heating plants and outside latrines. During the winter of 1917, the officers suffered much inconvenience from the cold and from insufficient bathing facilities on account of the inadequacy of these independent heating plants. Later, a new building for officers' quarters was constructed, and opened in January, 1918. These quarters consisted of a main building 160 feet long, and three wings, the outside two of which contained rooms for officers, the central wing containing the assembly hall, dining room, kitchen, and toilets. This building was heated from the central heating plant, was well lighted, and was very comfortable. It contained 48 rooms and accommodated about 100 officers. The care of the building and the administration of the mess were in charge of a house committee, made up of three field officers from the base hospital organization.

The members of the Nurse Corps were quartered in a building of their own, attached to the hospital proper by closed corridors. This building contained bedrooms, a mess hall, and kitchen, and, up to January, 1918, proved ample. As the hospital grew in size, and more nurses became necessary, they were placed in the officers' barracks just vacated. In April, 1918, there was a rapid increase in the number of patients, necessitating a rapid and large increase in the Nurse Corps on duty in the hospital. This, in addition to a fire in the nurses' quarters, made it immediately imperative that new and large quarters be provided. A building was erected, a replica of the new officers' quarters. This was soon filled, and additions were made to it. The original nurses' quarters were rebuilt after the fire, but even this did not provide for the 225 nurses on duty, so that it became necessary to reopen the old officers' barracks.

The enlisted personnel occupied three barracks on the west side of the hospital. As the detachment increased in size it became necessary to house the men in solaria, in vacant wards, in the chapel, and in every available space.

Early in March, 1918, the situation became so acute that five new barracks were erected. These barracks were ready for occupancy on April 5. Added to the original three, they gave adequate accommodations for the 660 enlisted men to which the hospital was entitled.

The kitchen building for the enlisted personnel consisted of a regular standardized structure, 24 feet wide by 156 feet long, with the storerooms at the east end and the kitchen at the other. It was situated as near the center of the hospital as construction permitted, and was connected with the mess hall and wards by closed corridors. The main kitchen equipment consisted of two 12-foot ranges; two steam roasters, with a capacity of 125 pounds of boned meat; two steam vegetable cookers, with a capacity of 4 bushels of prepared vegetables; two 40-gallon steam cookers for soup, etc., two 20-gallon and one 40-gallon steam coffee urns; one vegetable peeler with a capacity of 5 bushels per hour; one electric meat cutter, with a capacity of 150 pounds of boned meat per hour; and the usual auxiliary kitchen outfit for a kitchen preparing meals for about 1,800 patients.

The liquid, and special, therapeutic diets were prepared in the diet kitchen situated just off the main kitchen. This building was 24 by 24 feet.

The general mess hall consisted, for a time, of a single room, 156 by 24 feet, with two rows of combination bench tables running the entire length of the room. Later this mess hall was enlarged by the addition of three wings, 24 by 35 feet, running at right angles to and opening directly into the main hall at each end and in the middle, making a seating capacity of 620.

The kitchen for the commissioned patients, which was well equipped, was attached to the officers' ward. Its administration was entirely separate from that of the general mess, and was operated with its own funds. The mess hall opened directly from the assembly room of the officers' ward and seated approximately 100 persons. The tables were provided by the Medical Department; the table linen was furnished from the officers' hospital fund.

The hospital storehouse consisted of a standardized building, 24 by 150 feet. It had a cement floor throughout its entire length, and was partitioned into five rooms. These rooms were divided into a medical property department and a quartermaster department. It also contained the hospital carpenter shop. It was well lighted and steam heated.

The building originally built as the hospital laundry was wholly inadequate in size and construction for the purposes for which it was intended. It was never equipped, and consequently the hospital had to depend upon the laundries of Des Moines. The laundry was used as a linen room, where soiled linen was taken by the ward men, and exchanged, piece by piece, for clean linen. There was installed in this building a large autoclave for the sterilization of infected linen and for the sterilization of the clothing of patients coming into the hospital with infectious and contagious diseases.

The hospital chapel was ready for use about September 1, 1917. Owing to the great distance of the chapel from the center of activities of the hospital, it was never used for divine services. It served as temporary barracks for enlisted personnel for a number of months.

The hospital water supply was from open and tubular wells, located on the Des Moines River bottoms, situated approximately 1,000 feet west of the river, and directly east of the cantonment. The water was filtered through a 15-foot bed of sand and gravel, then chlorinated and pumped to a million-gallon concrete reservoir, situated on a high ridge running parallel to the eastern boundary of the cantonment. From this reservoir it was distributed, by gravity, to the whole camp, including the base hospital.

Practically all the toilets of the hospital were placed in the latrines between each two wards. They consisted of flush stools and enameled bowl urinals, with open plumbing, and were modern in all respects. The sewerage system was connected with the general camp system, which discharged, by gravity, into the Des Moines River 3 miles below Camp Dodge and 8 miles above the city of Des Moines.

Kitchen wastes were collected by civilians in Government-owned trucks, under charge of a Quartermaster Corps noncommissioned officer. They were then carried to the railroad and removed from the cantonment by a contractor. Garbage from the infectious disease messes was carried in a like manner to the incinerator, and burned. Manure from the picket lines was conveyed to a dump and burned.

The various wards and buildings of the hospital were heated by a vacuum-return system from a central heating plant, consisting of fourteen 150-horsepower boilers. The heating of the individual buildings was controlled by automatic gates. The system proved very successful.

The hospital was lighted by electricity throughout. The current was a part of the general camp system, and was obtained from the Des Moines Electric Co.

The first equipment of the hospital consisted of the standard field hospital equipment. Later, Gold Medal cots, with a field mattress, two blankets, and two sheets each, were issued. One pair of pajamas was given to each patient. On September 12, 1917, Medical Department supplies began to be issued, and as these increased the field hospital equipment was gradually removed. The hospital eventually became fully equipped for the care of about 2,000 patients.

When the hospital was first opened the enlisted men and the ambulatory patients patronized a contractor's canteen two blocks from the hospital. This suggested the need of a hospital exchange, and one was established, being opened for business in one of the barracks, September 25, 1917. Trade was good from the start, and rapidly increased. In October larger quarters were obtained, making it possible to carry a larger variety of goods. When the new base hospital was finished the latter part of October, the exchange moved into an independent wing, 24 feet wide by 75 long, in the center of the hospital. A still greater variety of goods was then carried, including various uniform accessories. Three barber chairs were operated. Later, when the hospital had increased to about 1,000 patients, business increased to such a scale that it became necessary to enlarge the exchange. It was then completely renovated, an office was fitted out for the exchange officer, new counters were purchased, a temperance bar was installed, modern office equipment was bought, and a modern sanitary barber shop was installed. Sales increased from about $400 a week to $2,000, and the personnel from 2 to 17. Dividends to the extent of several thousand dollars were paid the hospital fund.

The spirit of the Young Men's Christian Association seemed to be to fill every demand made upon it. Stationery was distributed free in quantity sufficient to write 850 letters per day. Stamps to the value of from $25 to $40 were sold daily, and enough money orders were sold monthly to average more than $12,000. Some months as many as 300 telegrams were sent for patients.

Educational classes were held in all subjects for which there was a demand. Athletic equipment for baseball, indoor baseball, tennis, volley ball, and soccer were furnished. Nearly 200 testaments were given to patients each month, and about 1,000 pieces of religious literature were distributed in the same length of time. The Young Men's Christian Association attendants spoke personally to not less than 1,000 persons in the wards daily, inquiring of them their needs, and supplying for them the obtainable comforts.

Great quantities of supplies and equipment were furnished by the Red Cross, in several emergencies, and every service was rendered by them that would aid as a contributory to the rehabilitation of the patients. For a time the work of the bureau of communications and other activities, operated by the Red Cross, were seriously handicapped for lack of room and other facilities, but these difficulties were overcome with the completion of the Red Cross house. This was connected with the hospital by closed corridors, and served as a place of amusement and diversion for convalescent patients.

The nurses' recreation building, constructed by the Red Cross, with assembly room, library, kitchenette, shower baths, glass-inclosed porch, and other comforts and conveniences, added much to the welfare of the nurses on duty in the hospital.

Numerous forms of carefully planned recreation for patients were available in the hospital. No matter how sick the soldier or what form his malady assumed, amusement was provided for him. Books, scrap books, magazines, in quantities, sent in as gifts, served to interest and amuse the patients. Concerts by the detachment band and the regimental bands were given several times a week. Visiting entertainers also contributed to cheer the patients.

In addition to all this, the Young Men's Christian Association, Knights of Columbus, Red Cross, Lutheran Brotherhood, and B'nai B'rith Club for Jews contributed to their share of entertainment and amusement.

The base hospital was designated a camp hospital on July 5, 1919.

Statistical data, United States Army Base Hospital, Camp Dodge, Iowa, from September, 1917, to July, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	......	97	779	5	881	365	2	.....	.....	.....	.....	.....	3	511	......	4,785	......
October	511	534	......	......	1,045	738	5	.....	1	.....	.....	.....	.....	301	......	11,009	......
November	301	1,196	69	......	1,566	1,000	2	.....	.....	.....	.....	.....	5	559	......	14,282	......
December	559	1,537	90	......	2,186	726	14	18	2	.....	1	.....	610	815	......	17,755	......

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Dodge, Iowa, from September, 1917, to July, 1919, inclusive—Continued.

SICK AND WOUNDED—Continued.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources. By transfer.	From other sources. Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1918.																	
January	815	2,611	53	......	3,479	1,789	20	10	......	......	......	......	504	1,156	......	29,496	......
February	1,156	2,024	82	12	3,274	1,634	18	7	......	......	......	......	586	1,029	......	28,430	......
March	1,029	3,086	123	18	4,256	1,709	42	21	......	......	1	......	941	1,542	......	44,294	......
April	1,542	2,893	150	13	4,598	1,751	108	15	......	......	1	47	856	1,818	2	62,567	......
May	1,820	2,370	141	28	4,359	1,763	57	20	4	......	......	225	722	1,568	......	56,383	......
June	1,568	1,785	114	39	3,506	1,321	16	36	1	......	......	88	599	1,445	......	46,176	......
July	1,445	2,358	52	44	3,899	1,347	18	42	2	......	......	120	808	1,562	......	38,904	......
August	1,562	1,762	20	27	3,371	1,252	18	19	7	......	......	25	648	1,402	......	33,840	......
September	1,402	2,026	29	37	3,494	906	13	63	1	......	......	126	552	1,833	......	30,240	......
October	1,833	9,694	3	96	11,626	562	705	25	3	......	......	39	8,383	1,909	......	141,289	......
November	1,909	1,542	12	......	3,463	415	43	44	2	......	1	44	1,822	1,092	......	67,005	......
December	1,092	1,514	730	13	3,349	704	20	46	......	......	......	41	1,494	1,044	......	32,483	......
1919.																	
January	1,044	1,838	1,214	13	4,109	666	16	46	3	......	......	13	2,019	1,346	......	30,635	......
February	1,346	1,078	682	11	3,117	646	14	39	4	......	......	41	1,061	1,312	......	22,063	......
March	1,312	820	1,128	13	3,273	1,630	9	78	......	......	......	71	340	1 145	......	20,960	......
April	1,145	566	770	21	2,502	1,624	8	162	1	......	......	105	45	557	......	17,993	......
May	557	438	765	10	1,770	1,209	2	4	1	......	......	37	10	507	......	10,108	......
June	507	696	1	17	1,221	713	3	3	2	......	......	164	16	320	......	11,312	......
July	320	360	......	5	685	434	......	4	......	......	......	224	23	......	......	5,453	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					**1918.**				
September	105	......	......	105	June	......	14	......	14
					July	......	14	......	14
1918.					September	......	3	......	3
May	......	14	......	14					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	41	2	2	45	225	......	225	......
October	41	2	2	45	225	......	225	18
November	55	2	1	58	320	......	320	54
December	55	2	1	58	320	......	320	63
1918.								
January	61	2	1	64	354	......	354	72
February	69	2	1	72	449	9	458	110
March	79	2	......	81	441	17	458	125
April	102	2	......	104	570	17	587	191
May	110	1	......	111	643	18	661	239
June	106	1	......	107	632	18	650	242
July	97	3	1	101	686	22	708	265
August	100	3	1	104	659	21	680	203
September	86	4	1	91	626	20	646	207
October	101	4	1	106	623	23	646	324
November	110	3	1	114	690	22	712	376
December	94	3	2	99	673	19	692	341
1919.								
January	71	4	2	77	1,127	19	1,146	120
February	72	5	5	82	812	19	831	164
March	69	5	12	86	589	17	606	157
April	56	5	13	74	504	17	521	156
May	40	5	12	57	317	3	320	87
June	39	5	4	48	227	......	227	65

BASE HOSPITAL, CAMP DONIPHAN, FORT SILL, OKLA.[a]

The military reservation of Fort Sill comprised 67,713 acres. Upon a small portion of it had been constructed, prior to the World War, a permanent post for Field Artillery troops. The garrison buildings included a post hospital commensurate in size to the adequate care of the sick of the command during peace time. As was the case at Fort Riley, an abundance of space was available at Fort Sill, when war was declared, upon which to construct a camp for a division of the National Guard; but there was this difference between the conditions at the two places: the permanent post of Fort Sill was to continue in use, and its buildings were not available for hospital uses; consequently, plans had to be formulated for the provision of a complete temporary base hospital as an integral part of the camp.

Camp Doniphan was situated to the southwest of the "new post" of Fort Sill, 5 miles from Lawton, and about 90 miles from Oklahoma City. To the north of the "new post," which formed the northeast corner of Camp Doniphan, the site for the base hospital was chosen.

The terrain is rolling. To the west of where the hospital was situated there is a series of hills, several hundred feet high and bare of foliage of any kind. On the east and north is a small river bed, which is dry practically throughout the year, though its banks are wooded for several yards on either side, giving the semblance of an oasis in the desertlike region. These trees afforded the hospital a scant but nevertheless appreciable degree of protection against the cold winds of winter. Since the "oasis" was the only shaded spot for miles around, it afforded ample protection from the intensely hot rays of the sun in summer, and its comfort was sought and welcomed.

The soil is loam. The atmosphere is extremely dry throughout the year and is heavily laden with fine dust. It was, consequently, wholly impossible to keep the hospital constantly clean in the sense of the term as usually understood in civil hospitals. During the year 1917–18, there was very little rain, and the dust storms were frequent and trying. It was inevitable that during these high winds particles of prairie dust should penetrate everywhere. The dust problem at the hospital was greatly relieved, though not entirely eliminated, by oiling the dirt roads in the vicinity and around the hospital. Rains, as a rule, are abortive, the parched earth receiving but a drop or two; but when rain in sufficient amount falls, it is taken up by the soil with great difficulty, and in consequence much sticky and tenacious mud results. Numerous puddles also appear and stay until the water has finally evaporated. The summers are intensely hot and long. During the summer the daily temperature ranges from 90 to 130° F. in the sun, more often over 100°, but for the most part the nights are bearable. The winters are short but severe, the changes in temperature being frequently excessive and sudden; and cold, icy, penetrating winds suddenly appear within a moment's notice, laden with dust to spoil a mild and pleasant day. The temperature falls and zero weather and lower is not uncommon. Snow, however, is rare, and when it does fall disappears very quickly. Aside from the changing spells, the weather continues pleasant into December, and becomes mild in February. The days of the springs and falls are very warm, but the nights are cool and livable.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Doniphan, Okla.," by Capt. Louis H. Nahum, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The hospital roads were made of compressed dirt. They were well kept and were oiled. In the hospital neighborhood the roads were all of dirt, but were smooth. The camp road, 1 mile away, was of gravel construction at first, then of concrete. The road leading to Lawton, the neighboring town, was of dirt construction, bumpy and very uneven; a poor thoroughfare for travel, especially that of an ambulance laden with sick.

Though there were two railroads to Fort Sill—the Chicago, Rock Island & Pacific Railroad, and the St. Louis & San Francisco Railroad—both were branch lines; they were badly ballasted and poorly equipped; and were subjected to frequent and prolonged transportation delays.

The base hospital was organized on September 1, 1917. At this time, however, the wards of the hospital were not ready; so, to care for the sick of the division, it was necessary to employ the facilities and wards of the post hospital, where, for a time, the patients of the post and camp were handled together in the same wards. The commissioned and enlisted personnel of both the base and the post hospitals also united, working side by side, without regard to the origin of the case. This was a very fortunate, even if clumsy, arrangement, for the enlisted personnel of the base hospital were green; and had, for the most part, never seen the inside of a hospital, nor the proper handling of a ward and its patients; whereas the enlisted personnel of the post hospital had at least an average of three months' experience. It can thus be seen how important a factor this combination was in the training of the personnel in the proper performance of their required duties. The property also was in part pooled in the common interest. As the size of the command increased, the facilities of the post hospital became inadequate to meet the needs, and 10 new temporary wards were built around the old hospital to accommodate the excess in the number of the sick. The construction of the base hospital meanwhile was progressing very slowly. Delay upon delay occurred that could be directly attributed to insufficient building supplies. At one time in October construction came to a standstill because of the lack of concrete for the foundations of the buildings. Somewhat later, construction stopped because most of the laborers were removed to complete buildings for the school of fire, the need for which became urgent. And still later, although many of the wards were completed externally, the absence of a sewerage system and a water supply made them totally uninhabitable. Owing to the pressing need of these buildings, temporary cesspools were installed for some of the wards, pending a special appropriation by the War Department for the introduction of a water supply and a sewerage system. It appears that the plans first issued had provisions neither for water and sewage disposal nor for bathing facilities. On November 17, 1917, the buildings were 95 per cent completed, with the exception of a sewerage system. The installation of the sewerage system was begun about December 1, 1917.

In the latter part of October, 1917, the full strength of the division, 27,000 men, had been attained. The number of sick was increasing daily, and the facilities of the old post hospital, including the 10 new wards, were entirely inadequate to meet the needs. On November 17, there were 40 cases of pneumonia at the hospital, and the cases of meningitis and measles were on the increase. It therefore became urgently necessary to occupy the new base hospital buildings, about a mile away from the post hospital, regardless of the lack of proper sanitation. So, on November 26, the transfer of all the medical cases was begun. As the wards of the base hospital were completed they were at once occupied by patients who had been transferred from the post hospital. This gradual transfer, continuing during the months of December, 1917, and January, 1918, created the complex situation where part of the base hospital patients were at the post hospital and part at the base. Owing to this anomalous situation two officers of the day were required, as well as a constant ambulance service between the new and old hospital, for the admission of surgical cases to the old place and the transfer of patients thence to the new hospital. The operating room, at the base hospital, was one of the last to be completed. The original plans did not provide for the installation of steam heat, or for a proper finish to the walls, to permit their scrubbing and cleansing between operations. Until these improvements were provided most of the major operations were performed in the operating room of the post hospital, which had been constructed and equipped for such work. The very last part of the hospital to move from its temporary ward at the old post was the genitourinary section. This moved into a series of tents within the convalescent camp in March, 1918.

The officers' quarters consisted of a long one-story building the size of a ward, and contained 22 rooms. This was manifestly too small for the personnel and a building, across the way, intended as an officers' ward, was at once converted into officers' quarters. About April 1, 1918, three wings were added to the building originally intended for officers' quarters, which increased the capacity to 62 rooms, and provided a mess hall and assembly room. This addition was altogether sufficient for the purpose. The nurses' quarters consisted of a long one-story building with three wings. The wings at each end contained sleeping rooms, the middle one a mess hall and kitchen. It was totally inadequate for housing all the nurses, and a dozen tents were placed directly behind the home for the additional nurses. Finally, another similar home was completed across the way from the first one. This solved the problem of the nurses' home. The enlisted men were quartered in five one-story barracks similar in size and construction to an ordinary ward. There were separate rooms for the noncommissioned officers.

There were four storehouses, the dimensions of which were about 30 by 120 feet. Two of these were shelved.

Until April, 1918, the laundry was sent to Enid, Okla., 150 miles away. This meant that it took from 10 to 15 days for its return to the hospital. Under such conditions it was inevitable that changes of hospital linen could not be made as frequently as desired unless several times over the supply of linen normally needed for this size hospital could be had in stock. Inasmuch as there was not this supply of linen, some unjust criticism was made against the hospital for conditions of which it was innocent.

The water supply of the hospital, in common with that of Camp Doniphan and the city of Lawton, was obtained from Lawtonka Lake, a body of water that was situated about 8 miles distant. The source was dependent entirely upon local rainfalls; and since these were infrequent, the amount available, during the years 1917–18, was precariously small. The situation was rendered doubly acute by the accretions to the populations of both Fort Sill and Lawton, and early practices of conservation had to be instituted. These included the prohibition of the watering of lawns, the limitation of the number of baths one might take, and every other known method to cause conservation. In these efforts at conservation the physical characteristics of the water materially assisted: suspended in it were more than appreciable quantities of clay, algæ, and protozoa. It frequently required a degree of real fortitude to quaff a glass of water within which there could readily be discerned crustacea darting about in a world of their own. Then, too, there emanated from the water a fishy odor, which, though only objectionable when the water was cold, became positively repulsive when an attempt was made to use it in a hot tub within a small, closed room. Many ineffectual efforts were made to render the water palatable, or even acceptable, by the use of copper sulphate and chlorine; but it was not until after a filtration plant had been installed, during the early part of the year 1919, that it was effected.

It has been related that the installation of a water supply in the hospital was much delayed. In the beginning, though the wards had their full quota of patients, the water necessary for bathing them had, perforce, to be carried in buckets into many of them. It was not until December, 1917, that a cold-water tap had been installed within the wards. But even then running cold water only was available, and to elevate the temperature of it to a point where it could be used for sponge baths it was necessary to heat it in pails placed on the tops of the ward heating stoves. In the isolation wards, this state of affairs existed until so late as January, 1918. The installation of boilers in the wards was begun in January and was completed the end of the following month. It was then only, when hot and cold running water was available in the wards, that conditions began to approximate those which are accepted for granted in civil hospitals.

The necessity for them made it desirable to occupy some of the wards before the sewerage system was installed. Cesspools, therefore, were constructed for the quarters and some of the wards. From these pools the water was removed by water wagons on alternate days. Later, a complete sewerage system was installed which emptied into a large, main sewer that discharged into a small creek at a point over a mile from the hospital grounds. There were two types of wards as regards toilets. In one type a common bathhouse opened off a corridor that connected two wards. This bathhouse contained five toilets and one urinal on one side, five basins, a bath, and a shower on the other side. There were also single wards, such as the isolation ward, in which one of the front rooms was a bathroom, containing a urinal, two toilets, two wash basins, a shower, and bathtub. Unfortunately, the plumbing in the isolation wards was so constructed that only one toilet room was at first installed. To prevent spread of contagion, only one kind of communicable disease could be housed in each building. This, happily, was changed, and the wards later contained three different rooms with toilets. Until the plumbing was all completed the hospital was in a sad plight. Baths were not taken as frequently as was desired; for a bathtub the officers were obliged to employ a small agate pail into which it was impossible to get even the foot comfortably, and to heat water for bathing purposes on the small heating stoves in each room. In the isolation wards, especially, the lack of plumbing was a hardship, for here the absence of hot running water was tantamount to saying that there was no proper sanitation.

The garbage was sold to a neighboring contractor. It was distributed in different cans according to the nature of the garbage. The contractors then came, removed the cans, and left an equal number of cleaned, dry cans.

The heating of the hospital underwent its own special evolution. No general heating system was installed. Large stoves were used, at first, to warm the wards, three of them being used for each ward. They were not successful, they consumed large quantities of fuel and gave comparatively little heat. The only part of the ward that was warm was that in the immediate vicinity of the stoves; the separate rooms were not warm at all. Finally two large range heaters per ward were substituted for them, and separate stoves were provided for the detached rooms. In this way the wards were kept tolerably warm. Besides a greater distribution of heat the range heaters had another advantage; water could more readily be heated over them, and this facilitated the meager bathing facilities before the boilers were installed.

The hospital was lighted by electricity which was obtained from the neighboring town of Lawton. It was, generally speaking, quite successful. On stormy nights the power was interrupted, but such an occurrence was extremely rare. Although the lighting was the very first utility to be installed, the meningitis ward was, for a considerable period in December, 1917, and January, 1918, without electricity, owing to a faulty construction. This was a great hindrance in the proper treatment of such cases, as many required treatment, night as well as day. Lanterns and candles, although inadequate for this purpose, had to be employed until proper lighting was supplied. The reason why it was not installed as soon as required was that the contractor could not overcome his layman fear of meningitis and for a long time evaded every opportunity to enter the ward. However, it should be said that, in spite of these conditions, proper treatment was never delayed because of such hindrances as poor lights, a fact that was borne out by the low local mortality rate.

There was a paucity of facilities for recreation at the hospital. For the patients, such games as cards, checkers, etc., were furnished by the various welfare organizations. The chapel was refitted by the Young Men's Christian Association and was used by it for a recreation room, in which was installed a phonograph, game tables, facilities for writing, etc.

On July 24, 1918, the War Department authorized the abandonment of the camp.

Statistical data, United States Army Base Hospital, Camp Doniphan, Okla., from October, 1917, to June, 1918, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
October	......	15	......	744	759	423	4	7	1	......	......	45	......	277	2	7,395	28
November	279	36	......	1,322	1,637	730	23	22	......	......	......	205	5	650	2	1,264	34
December	652	70	......	2,226	2,948	1,291	32	17	......	......	......	337	6	1,259	6	31,690	15
1918.																	
January	1,265	1,534	......	9	2,808	1,325	50	23	......	......	......	488	9	921	1	25,893	60
February	913	1,434	......	7	2,354	965	36	32	......	......	......	298	6	1,010	7	22,245	225
March	1,017	1,834	......	22	2,873	1,721	17	34	......	......	......	371	20	703	7	24,114	228
April	710	1,320	......	14	2,044	1,292	21	47	3	......	......	313	16	351	1	16,647	191
May	352	11	......	675	1,038	502	3	156	1	......	......	146	13	212	5	10,175	100
June	217	6	......	396	619	252	4	62	......	......	......	102	23	176	......	4,845	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
October	1	1	3	5	January	9	2	1	12
November	1	3	4	8	February	12	1	....	13
December	1	2	1	4	March	31	9	....	40

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
October	35	2	1	38	149	....	149	....
November	41	2	1	44	329	....	329	....
December	46	2	1	49	344	....	344	11
1918.								
January	56	2	1	59	353	....	353	66
February	57	2	1	60	453	....	453	81
March	60	4	1	65	448	....	448	78
April	63	2	1	66	432	20	452	78
May	51	2	1	54	428	20	448	74
June	50	1	1	52	318	20	338	21

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

CHAPTER XXX.

BASE HOSPITALS, CAMPS EUSTIS, VA., FREMONT, CALIF., GORDON, GA., GREENE, N. C., HANCOCK, GA., A. A. HUMPHREYS, VA., JACKSON, S. C., JOS. E. JOHNSTON, FLA., KEARNY, CALIF., AND LEE, VA.

BASE HOSPITAL, CAMP EUSTIS, VA.[a]

The base hospital at Camp Eustis, Lee Hall, Warwick County, Va., was opened September 16, 1918, before the completion of the buildings. The work of construction, and the presence of the workmen in the buildings; the giving up of the time of certain officers to the examination of recruits; the lack of adequate personnel in officers, nurses, and enlisted men; and the rapid increase in admissions were difficulties incident to the development of a new institution. Certain deficiencies in the work resulted, but these were limited to records and investigations, not essential to the welfare of the patients.

The original bed capacity was 500, but early in October it was found necessary to provide more space for patients. The convalescent barracks, or the hospital annex, as it was called, was then opened. The annex consisted of a block of buildings used to house the troops in training in camp. All convalescent and minor cases were treated here. Medical officers from the base hospital were in charge, but the nursing and clerical work connected with the operation of the annex had to be taken care of by enlisted men of the Coast Artillery Corps, who had had no previous training in the duties of the Medical Department.

The base hospital exchange was opened October 8. It was well patronized by the personnel on duty at the hospital, as well as by the patients, and at the end of the year showed a net value of over $4,000. The function of this hospital was to treat all cases arising in camp.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Eustis, Va.," by Maj. P. C. Riley, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

Statistical data, United States Army Base Hospital, Camp Eustis, Lee Hall, Va., from September 16, 1918, to March 9, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
September	......	345	29	1	375	8	5	.....	.....	.....	.....	.....	.....	362	.....	1,640	.....
October	362	1,695	.....	.....	2,057	1,353	93	.....	.....	.....	.....	6	.....	605	.....	850	.....
November	605	763	.....	95	1,463	925	28	.....	.....	.....	.....	10	.....	500	.....	978	.....
December	500	413	1	38	952	703	18	.....	.....	.....	.....	15	.....	216	.....	18,052	.....
1919.																	
January	216	265	.....	26	507	318	7	.....	.....	.....	.....	12	.....	170	.....	8,507	.....
February	170	279	.....	21	470	211	3	.....	.....	.....	.....	7	.....	249	.....	6,088	.....
March	249	144	.....	7	400	119	1	.....	.....	.....	.....	3	11	266	.....	2,389	.....

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	Nurses.
1918.								
September	14	4	3	21	17	9	26	31
October	22	4	1	27	408	12	420	68
November	27	4	1	32	459	12	471	60
December	39	4	1	44	429	12	441	70
1919.								
January	19	5	3	27	336	9	345	55
February	17	5	3	25	310	9	319	34
March	29	4	2	35	201	5	206	24

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant's General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP FREMONT, CALIF.[a]

The base hospital, Camp Fremont, was situated in San Mateo County, Calif., 2 miles from Palo Alto. The surrounding country is flat and wooded. The soil is loam, forming little dust and a moderate amount of sticky mud after rain. The climate is mild. The temperature in winter ranges from 50° to 70°, and there is no snow, except on the mountains, 30 miles away. In summer the temperature ranges from 65° to 95° F., and occasionally there is some fog, but very little wind. The prevailing winds are from the south. The roads in and around the base hospital were of oiled gravel, and were well kept. The only stream near the area is San Francisco Creek, half a mile away, which is dry all summer. The sanitary status of the hospital neighborhood was satisfactory. On July 6, 1917, the hospital at Camp Fremont was established. It occupied a small building which was erected as a regimental infirmary, and was totally inadequate for the sick of the command; so the infectious and venereal patients were quartered in tents adjacent to the hospital. All important cases, both surgical and medical, were transferred to the Letterman General Hospital, Presidio of San Francisco.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Fremont, Calif.," by Col. E. B. Frick, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

On November 13, 1917, the base hospital was organized. Its function was to treat all cases arising in camp; and medical, surgical, and venereal cases from overseas.

The hospital was constructed on the standard plan. The first part of it completed was occupied January 4, 1918; gradual occupation followed.

Officers were quartered in a separate building of 22 rooms. This building had, in addition, 2 baths, 4 lavatories, and 4 toilets. The sleeping rooms were small, each accommodating one officer; and, as the commissioned personnel increased, it became necessary to pitch tents for additional officers.

Nurses were quartered in 24 single rooms and in 2 dormitories, each of which contained 12 beds. There were 2 baths, 6 washstands, and 6 toilets for the nurses. It became necessary, as was the case with the officers, to pitch tents to accommodate the increase in the number of nurses.

The barracks for the enlisted men consisted of 4 buildings, each containing 40 beds, 4 noncommissioned officers' rooms, a recreation room, and a mess hall. There were 2 bathhouses, each containing 8 baths and 8 toilets. Later it became necessary to pitch 21 extra tents to accommodate the overflow of men.

When the base hospital was first occupied, the patients, the detachment Medical Department, and officers all messed in the main mess hall. Later the detachment messed in its own barracks, the patients in the main mess hall, and the officers in a mess maintained temporarily in tents.

The hospital storehouse consisted of two buildings, 25 by 150 feet; they had no electric lights, no running water, no toilet, and no sewer connections.

Because of lack of machinery the hospital laundry was not operated. The work was done outside, by contract. This arrangement was satisfactory, but expensive.

The hospital chapel was used early in January, 1918, for religious services. The chaplain maintained an office in the chapel where he could be consulted by members of the detachment. The building was furnished through contributions and gifts.

The initial hospital equipment consisted of approximately one-tenth of a 500-bed base hospital, according to the Wolfe unit. By April 30, 1918, the hospital was equipped to care for 1,500 patients, but was lacking in some things, such as surgical instruments, for all services. The laboratory equipment was not sufficient to meet all necessities. On the whole, however, the work ran smoothly under all conditions.

On September 13, 1918, at 3 a. m., fire broke out in the building of the receiving office, and the whole building rapidly burned to the ground, nearly everything, including patients' clothing, being lost. This building was never rebuilt, and barracks No. 1 was used at first as a receiving office, and later ward B was altered and answered very satisfactorily for that purpose.

The origin of the water supply was Alemada and Contra Costa Counties, from which it was piped across San Francisco Bay. Prophylactic treatment of this water supply was by filtration. The entire hospital sewage was disposed of by a sewer main which passed through the hospital grounds, emptying by gravity into San Francisco Bay.

The unusable part of the kitchen waste and other forms of hospital garbage were incinerated; the usable part was sold to hog raisers.

In separate wards the baths, toilets, and latrines were rooms directly connected with the ward. In double wards the baths, toilets, and latrines were in small separate buildings between the wards, accessible through short halls. They emptied into the main sewer which passed through the hospital grounds.

The hospital was heated by means of coal stoves, of which there were about 500. This seemed to be a wasteful and inefficient method, and inferior to a central heating plant. The wards were each equipped with two large coal furnaces (Lexington No. 25). These furnaces had metal jackets, which interfered with conduction and radiation of heat, and were, in fact, designed for furnace heating rather than room stoves. Nearly all the heat rose and passed out of the top of the stove, and if the ward ventilators were open, passed through them out of the ward. The stoves occupied, in each ward, the space of four beds, meaning, of course, a great expense in waste bed space; and it was extremely difficult to regulate the temperature of the wards with the stove heating. Hot water was supplied from separate small coal-burning water heaters, one for each ward.

The hospital was lighted by electricity. The system was successful, except that porch lights were on the same switch as the lights in the corridors of wards. This gave rise to waste, as the lights in the corridors and porches could not be turned off separately.

On January 8, 1918, the post exchange was opened for business, without funds. The business increased, until by April 30, 1918, the total amounted to more than $10,000. At that time there was on deposit with the Palo Alto Bank a balance of $4,235.37.

The Red Cross, Young Men's Christian Association, and Knights of Columbus were all represented at the hospital.

The usual amusements were furnished by the Red Cross, the Young Men's Christian Association, and the Knights of Columbus. Dances were held frequently at the Red Cross building. An open-air theater, planned and constructed by the Ladies' Garden and Hospital Committee of Menlo Park, was an important factor in the life of the hospital. Moving pictures, vaudeville, and other performances were given here. Baseball, tennis, basket ball, volley ball, and other games were encouraged.

Statistical data, United States Army Base Hospital, Camp Fremont, Palo Alto, Calif., from January, 1918, to March 31, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
January	43	41	468	11	563	275	.....	3	.....	.....	.....	6	3	276	......	....	6
February	276	29	623	......	928	431	1	1	.....	.....	.....	.....	3	492	......	9,070	......
March	492	25	1,140	1	1,658	884	2	36	.....	.....	.....	8	16	712	......	19,521	......
April	712	65	1,380	0	2,157	1,517	5	25	.....	.....	.....	5	13	592	......	22,471	......
May	592	69	1,300	......	1,961	1,111	9	23	.....	.....	.....	5	10	803	......	20,962	......
June	803	55	1,238	......	2,096	1,256	9	6	.....	.....	.....	59	21	745	......	23,890	......
July	745	27	882	......	1,654	937	3	.....	.....	.....	.....	78	4	632	......	20,487	......
August	632	29	1,378	......	2,039	996	16	6	.....	.....	.....	56	11	954	......	22,967	......
September	954	35	1,147	......	2,136	891	5	68	.....	.....	.....	25	5	1,142	......	30,294	......
October	1,412	229	2,692	......	4,063	2,930	141	23	.....	.....	.....	105	21	843	......	44,373	......
November	843	112	224	......	1,179	881	11	19	.....	.....	.....	9	24	235	......	14,702	......
December	235	77	177	......	489	266	3	30	.....	.....	.....	.....	11	179	......	6,202	......
1919.																	
January	179	85	513	......	777	257	2	25	48	.....	.....	8	49	388	......	9,742	......
February	388	118	339	......	845	97	1	34	1	256	.....	12	78	366	......	10,888	......
March	366	90	161	......	617	82	.....	65	.....	173	.....	259	38	......	......	....	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					**1918.**				
May	5	....	....	5	November	10	13	....	23
June	7	....	....	7	December	10	11	....	21
July	8	3	....	11	**1919.**				
August	6	6	....	12	January	14	11	....	25
September	13	9	....	22					
Otcober	13	10	....	23					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
January	21	1	1	23	111	....	111	11
February	21	1	1	23	123	....	123	29
March	37	1	2	40	122	9	131	44
April	35	1	2	38	152	9	161	66
May	40	3	2	45	273	15	288	90
June	39	3	1	43	311	15	326	99
July	42	2	1	45	363	17	380	106
August	60	3	1	64	376	16	392	79
September	49	4	1	54	364	16	380	83
October	59	3	3	65	366	15	381	105
November	56	4	2	62	386	15	401	147
December	45	4	3	52	377	15	392	80
1919.								
January	35	6	4	45	369	14	383	36
February	28	4	3	35	353	12	365	50
March	13	3	3	19	60	12	72	55

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP GORDON, GA.[a]

The base hospital was located in the northeast corner of Camp Gordon, about a half mile from Chamblee Station, De Kalb County, Ga., and about 14 miles, by rail, from Atlanta.

The topography of the surrounding country is rolling to hilly. Where the camp was located is quietly rolling and fairly well wooded, with small growth of oak, hickory, and short-leaf pine. The camp lay within the drainage area of the Chattahoochee River, which is approximately 10 miles to the west.

The soil of this section is derived primarily from a granite gneiss which breaks down to a reddish sandy material with a comparatively small percentage of finely divided substance which forms dust or mud. In the top soil that has been long exposed, practically all the reddish clay has been washed out, leaving a comparatively coarse sandy soil. Where the top soil has been eroded away and the subsoil or original decomposed material is exposed, mud forms rather readily. A portion of the soil is derived from a hornblend gneiss which yields a more finely divided red soil and which forms mud very easily. In dry weather a comparatively slight current of air will float the fine particles. Practically the entire hospital area was graded, exposing the subsoil, which made conditions worse than they would have been otherwise.

The climate is characterized by long summers and short winters. The summers are marked by periods of oppressive heat, although the temperature seldom reached a maximum of 100° F. The winters are generally mild and open, with periods of damp, penetrating cold, during which the temperature seems lower than is shown by the thermometer. The winter of 1917–18 was of unusual severity, characterized by a freeze, with snow and sleet of several weeks' duration. The precipitation is ample for the successful production of all crops common to this region, the mean being 49.47 inches. There is a normal growing season of 225 days. The average date of the last killing frost in the spring is March 23, and of the first in the fall, November 3. The mean temperature for winter is 44°; spring, 61°; summer, 76.4°; and fall, 62.1°.

The roads in the immediate vicinity of the hospital were decidedly inferior in quality to others in the camp. The main thoroughfare in front of the hospital was bedded with crushed stone and surfaced with soil, but not otherwise improved. The other roads in the hospital area were graded but not surfaced, and were, therefore, exceedingly dusty during the dry season. All roads, with the exception of the main road mentioned, were difficult to travel after a few hours of rain, and were impassable with continued rains, or with intermittent showers and very much traffic.

The natural drainage of the hospital section was excellent. Two small streams, thoroughly ditched, transversed the grounds. The sanitary status was excellent, save in the matter of the great prevalence of dust and mud in dry and wet seasons, respectively. Mild affections of the upper air passages were naturally prevalent at all times.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Gordon, Ga.," by Lieut. Col. S. J. Young, M. C. ,U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The hospital was officially opened September 7, 1917. Its function was to treat all cases arising in Camp Gordon, and medical, surgical, and venereal cases from overseas.

Buildings in block "O," designed for barracks, were used for temporary quarters. The first hospital for the camp was installed on a limited scale—a small infirmary, in fact—in a building which subsequently became military police headquarters. Previous to the official opening of the hospital and the transfer of personnel with patients, the equipment was that of Field Hospital No. 25. Four buildings of barracks type, with two small administration buildings and two officers' quarters, were utilized. The hospital with the field hospital equipment in the buildings described constituted the camp hospital, until it was designated the base hospital, September 7, 1917.

Such of the equipment in block "O" as belonged to the base hospital, with records, personnel, etc., were transferred to the permanent location on October 2, 1917. Very few of the buildings were complete at that time. The examination of recruits, which had been part of the duties of the hospital personnel in block "O," was continued there for several weeks. The incompleted wards were used for the purpose of examining the incoming draft and also for the housing of patients. From day to day the capacity was increased as wards were either finished or made suitable for the reception of patients. Not for several weeks were the buildings of the first unit completed in the full meaning of the word; in fact, all the winter the steam fitters were found daily engaged putting up and taking down pipe, placing new connections and taking out others. The runways were at no time clear of plumbers and plumbing material from October 2, 1917, to May 31, 1918.

The plan and distribution of buildings was the same as in other cantonments, with perhaps slight variations. All buildings were constructed of wood, and were ceiled with beaver board.

The original capacity of 500 was soon increased to 1,000; the maximum capacity attained was 4,167.

When the base hospital was opened the officers were quartered in the building to be used as nurses' quarters. On November 15 the nursing staff began to arrive, and the officers moved into their own quarters, which were then sufficiently near completion to be occupied. It was found, however, that these quarters were not adequate, and the overflow was quartered in rooms in the eye, ear, nose, and throat building, in the sick officers' building, and in other parts of the hospital in which equipment had not been installed. This overflow state of affairs applied also to nurses.

Five separate messes were maintained in the hospital: an officers' mess in the officers' quarters; a sick officers' mess in the building set apart for their ward; a nurses' mess in the nurses' quarters; a general or patients' mess in the main mess hall; and the enlisted men's mess in the barracks provided for the detachment of the Medical Department.

At first the storehouse capacity of the hospital was ample for ordinary needs, but as the size of the institution increased, the storehouse became inadequate. Four buildings, with floor space aggregating 14,500 square feet, were occupied by the hospital supply officer and the camp supply officer jointly.

The hospital at no time operated its own laundry. From September 7, 1917, when the base hospital was opened, to May 4, 1918, the work was done by private laundry concerns in Atlanta. On May 4, 1918, arrangements were made for all laundry work to be done in the camp.

The chapel was completed and ready for use about November 20, 1917. It filled a very useful place in the life of patients, enlisted personnel, and officers of the hospital. Religious services, entertainments for patients, and lectures for officers and enlisted men were held here.

The hospital water supply was part of that of Camp Gordon, obtained by contract from the city of Atlanta. The source of supply is the Chattahoochee River, which has its origin in north Georgia. The city's storage plant consists of two large reservoirs, coagulating basins, and pressure filters. The water was furnished to the camp through an 18-inch main. The character of the water was satisfactory from the chemical and bacteriological standpoint, except that at times when an overflow was placed on the filters, *B. coli* were found. At times, when the camp was filled, the pressure was inadequate for fire-fighting purposes, doubtless due to wastage of water in the camp. The bursting of mains, which were made of wood wrapped with wire, was responsible for lack of a water supply in several instances. The danger of shortage of water was later overcome by the installation of intermediate storage reservoirs in the camp.

A complete and adequate system of sewerage was provided for the hospital. The mains connected with those of the camp and ended in a septic tank. The entire hospital was fully equipped with toilets of modern type. Latrines were not tolerated, except when required for the employees of construction companies, and then only under the closest supervision of the hospital sanitary officer. In the first unit of wards constructed some of the "double wards" had joint toilet rooms. In the later construction each ward had its own urinal, toilet, and bath. It was generally conceded that the double-ward arrangement was unsatisfactory, sanitary conditions and discipline being more difficult to maintain than in single wards.

The garbage of the hospital was disposed of through the garbage transfer station. Garbage was sorted in the kitchens, wards, and elsewhere in the hospital, thereby entailing no extra labor in the selecting of garbage. Sufficient cans, adequately covered, were placed at each mess to take care of the sorted garbage. The wagons and trucks collected the garbage daily, and more often as occasion arose. Paper, pasteboard, pieces of wood, cans, fabrics, etc., were separated from all other garbage and taken to the incinerator. At the transfer station the sorting was carried further, and anything of value, such as hog feed, bones, tin cans, bottles, etc., was salvaged, and disposed of by contract.

A central heating plant, consisting at first of a series of 10 batteries of low-pressure boilers and one high-pressure boiler, supplied the heat for the hospital. The heating system was inadequate. During the severe winter of 1917–18, there were times when the patients would have endured great suffering from poorly heated buildings had there not been an ample supply of blankets. The expense of repair incident to freezing and the bursting of pipes was almost inestimable. Because of the lack of steam, the wards having steam tables were without their use many days when they were very essential. For the same reason, sterilizers in the operating room were useless at times, and frequently when most needed. A further handicap was the difficulty with which coal was delivered to the steam plant. A railroad spur should have been laid for the delivery of coal, but this was not done. For a greater part of the cold season, when the quantity of coal used was the greatest, the roads were practically impassable, trucks could not be used, and mule teams had to be resorted to, working day and night to keep sufficient fuel on hand. Additions to the heating plant were made in the autumn and winter of 1918; and by December these additions were 90 per cent complete, greatly reducing the difficulties of heating the hospital buildings.

Current for the electric lights was obtained from the Georgia Light & Power Co., of Atlanta. The grounds and buildings were well provided with suitable lights, and the electrical equipment for other purposes was adequate. The only disadvantage experienced in this connection was lack of provision for an electrician to be on hand at all hours. On many occasions such services were urgently and promptly needed, but could be obtained only after waiting indefinitely for the arrival of an electrician from the utilities branch of the Quartermaster Department.

In the early days the equipment was practically that of a field hospital. Temporary quarters were being occupied; there were no water or sewerage connections; and the buildings were not suitable for the installation of equipment of a permanent nature. Later, the equipment was satisfactory in the main. There was a shortage of sphygmomanometers, and a few instruments were badly needed for the eye, ear, nose, and throat department. The messing arrangements of the convalescent wards were inadequate, a kitchen and mess hall being badly needed.

The post exchange was opened January 13, 1918, with a stock, the value of which was $1,374.75. Sales for the first day were $110. Dividends for the first month were $95.56; in February they were $800.73, and in March, $1,103.96.

There was no Young Men's Christian Association building on the hospital reservation at first, but two "Y" men were on duty in the hospital practically all the time, and in an adjoining block the "Y" building was open to the men of the hospital detachment.

The Red Cross erected a commodious building adjoining the hospital grounds for the use of patients during the day and for entertainments in the evenings. Valuable assistance was rendered the hospital in the matter of correspondence with relatives of sick soldiers, and in many other ways. Several rooms were so equipped that relatives visiting the patients might remain over night.

The activities of the various clubs, societies, etc., in the city of Atlanta were very beneficial to the patients in the hospital. Many of the wards were adopted by these organizations, whose representatives made at least one visit a week to the patients, bringing flowers, reading matter, etc., for the men. A recreation room under the auspices of a Red Cross Chapter was fitted up in the exchange building, and here ambulatory patients were allowed to congregate at certain hours. Practically all of the wards were supplied with phonographs and a goodly number of records.

Statistical data, United States Army Base Hospital, Camp Gordon, Atlanta, Ga., from December, 1917, to June, 1918, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
December	430	1,967	56	3	2,456	621	17	7	.....	.....	.....	392	643	775	1	18,174	67
1918.																	
January	776	1,391	77	5	2,249	380	63	12	.....	.....	.....	347	768	679	.....	21,910	.....
February	679	1,202	91	8	1,980	370	20	11	.....	.....	.....	305	441	830	3	27,485	162
March	833	1,804	132	6	2,775	691	9	7	.....	.....	.....	238	727	1,099	4	31,743	150
April	1,103	2,564	114	1	3,782	1,099	39	5	1	.....	.....	533	761	1,341	3	36,694	273
May	1,344	3,186	71	.....	4,601	1,266	69	39	1	.....	.....	624	1,069	1,531	2	49,109	205
June	1,533	2,250	52	.....	3,835	1,349	23	35	4	.....	.....	310	776	1,336	2	35,666	188

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
December	85	2	....	87	235	....	235	49
1918.								
January	83	2	1	86	316	18	334	52
February	73	2	1	76	338	18	356	79
March	77	2	1	80	320	18	338	78
April	70	2	1	73	333	18	351	113
May	70	2	1	73	358	18	376	161
June	66	2	1	69	449	18	467	158

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP GREENE, CHARLOTTE, N. C.[a]

The base hospital, Camp Greene, was located in Mecklenberg County, 4½ miles from Charlotte, N. C.

The surrounding country is rolling and wooded. The soil is red clay, which gives rise to very little high-flying dust in dry weather, but a great deal of red, sticky mud after rain.

The climate in summer is moderately warm, with very hot days occasionally. The autumn is cool and exhilerating. The winter of 1917–18 was very severe and cold, which was unusual for this location.

The roads in and about the hospital were of cinders and dirt. The streams in the immediate vicinity were small brooks. The sanitary status of the hospital neighborhood was good.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Greene, N. C." by Lieut. Col. George A. Penn, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The base hospital was organized September 18, 1917, its function being to treat cases arising in the camp as well as medical, surgical, and venereal cases from overseas.

The base hospital was occupied September 18, 1917, when four wards were completed and patients admitted thereto. The hospital was originally erected on the standard pavilion plan. Later, six two-story barracks buildings and a ward which was used for clinical lectures and as offices for the chiefs of service, were constructed.

The hospital water supply was identical with the general camp supply, and was obtained from the Catawba River, and treated by mechanical filtration by gravity through a sand-sulphate-aluminum coagulant.

Comfortable quarters were provided for officers and nurses, and the barracks for enlisted men were satisfactory.

The general mess was conveniently situated and centrally located with reference to the wards, with which it was connected by covered boardwalks. The officers' mess was conducted in the officers' quarters, and, likewise, the nurses had their separate mess.

Five warehouses were provided for supplies for the medical supply officer, the dispensary, and the quartermaster of the hospital.

The hospital had to depend entirely upon a laundry in Charlotte. The service was very unsatisfactory.

The hospital was fairly well equipped in the early days of its existence, and fully equipped eventually.

A complete sewerage system was installed in the hospital. There were no latrines. Water-closets and shower baths were placed in separate rooms in the wards.

All garbage was delivered to a dumping platform where it was removed by farmers. Manure was disposed of in the same manner. Shower baths were placed in the wards in separate rooms with the water-closets.

The hospital was heated during the winter of 1917–18 by means of very inferior trash stoves. These were replaced later by a general assortment of various coal stoves and so-called individual ward furnaces, which were operated by men from the detachment on duty in the wards. This method of heating was very unsuccessful and unsatisfactory, and there was a continual danger of setting fire to the wooden structures. Furthermore, during the very severe weather of the winter of 1917–18 great difficulty was experienced in procuring sufficient fuel because of the almost impassable condition of the roads.

The hospital was lighted by electricity, the system being successful in the main.

Early in November, 1917, the chapel was ready for use for religious purposes.

A post exchange was established soon after the hospital opened, and proved a great convenience to the patients.

The Young Men's Christian Association constructed a building for the use of the personnel and patients. It was well patronized and proved a source of much entertainment.

Until July 1, 1918, no Red Cross building had been erected. Red Cross workers, however, were very active from the time of the organization of the hospital and proved a source of great help.

Statistical data, United States Army Base Hospital, Camp Greene, Charlotte, N. C., from September, 1917, to March 8, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	......	......	191	......	191	48	.....	.....	.....	.....	.....	.....	.....	143	......	1,157	......
October	143	657	......	......	800	508	4	.....	.....	.....	.....	.....	1	287	......	7,532	......
November	287	869	......	......	1,156	465	1	60	.....	.....	.....	.....	.....	630	......	15,629	......
December	630	2,077	......	......	2,707	1,509	15	111	.....	.....	.....	.....	.....	1,072	......	22,726	......
1918.																	
January	1,072	2,163	......	......	3,235	1,804	98	14	.....	.....	1	.....	6	1,312	......	38,434	......
February	1,312	1,532	......	......	2,844	1,598	34	9	.....	.....	.....	1	6	1,196	......	38,897	......
March	1,196	1,836	......	......	3,032	1,869	13	20	.....	.....	.....	.....	.....	1,130	......	38,241	......
April	1,130	1,296	......	......	2,426	1,605	34	30	.....	.....	.....	2	.....	755	......	29,111	......
May	755	739	......	......	1,494	800	13	32	.....	.....	13	1	.....	635	......	21,624	......
June	635	637	2	......	1,274	788	1	17	.....	.....	5	2	.....	461	......	16,324	......
July	461	381	2	......	844	473	0	10	.....	.....	.....	1	.....	360	......	13,389	......
August	360	54	1	707	1,122	519	2	66	1	.....	.....	2	30	502	......	13,719	......
September	501	46	......	1,252	1,799	820	7	8	.....	.....	5	3	14	942	......	19,794	......
October	942	123	424	2,767	4,256	2,756	255	4	4	.....	.....	5	9	1,221	2	48,796	145
November	1,223	34	......	696	1,953	1,353	28	6	.....	.....	.....	13	11	542	......	25,355	......
December	542	47	34	599	1,222	775	7	1	.....	.....	.....	5	11	423	......	15,192	......
1919.																	
January	423	31	133	290	877	516	5	.....	.....	.....	.....	12	41	303	......	11,869	10
February	303	20	188	249	760	380	4	.....	.....	.....	.....	31	112	233	......	9,000	8
March	233	9	34	14	290	171	.....	1	.....	.....	.....	114	4	......	......	2,081	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
October	150	....	....	150	July	31	....	....	31
November	160	....	....	160	August	....	9	....	9
December	500	....	....	500	September	....	9	....	9
1918.					October	....	6	....	6
January	650	....	....	650	November	....	9	....	9
February	600	....	....	600	December	1	8	....	9
March	625	....	....	625	1919.				
April	675	....	....	675	January	....	9	....	9
May	450	....	....	450	February	....	9	....	9
June	25	....	....	25	March	....	4	....	4

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	28	....	....	28	132	....	132	....
October	28	....	....	28	132	....	132	....
November	42	....	....	42	263	....	263	48
December	42	....	....	42	439	....	439	55
1918.								
January	57	....	1	58	428	13	441	67
February	67	....	1	68	424	13	437	83
March	76	....	1	77	426	20	446	85
April	87	....	1	88	621	20	641	120
May	71	....	2	73	425	18	443	138
June	69	....	2	71	416	18	434	101
July	74	2	2	78	385	18	403	99
August	59	3	1	63	378	16	394	86
September	58	3	1	62	368	18	386	84
October	66	4	1	71	453	18	471	94
November	64	4	1	69	453	15	468	95
December	49	4	2	55	410	19	429	92
1919.								
January	34	4	2	40	406	16	422	60
February	27	3	1	31	305	14	319	35

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP HANCOCK, AUGUSTA, GA.[a]

Camp Hancock was located in Richmond County, Ga., adjacent to the city of Augusta. Augusta is a city of about 50,000 inhabitants, is largely devoted to agricultural business—principally cotton—and to cotton manufacture on a large scale. It is located on the Savannah River, which forms the boundary between the States of Georgia and South Carolina; and is about 135 miles from the city of Savannah, situated at the mouth of the Savannah River.

The camp was located west of the city, which it bordered for a distance of three-quarters of a mile. The base hospital reservation was at the extreme eastern end of the camp, and part of this reservation actually lay within city limits.

City street-car lines passed the hospital at a distance of about two blocks from the entrance to the hospital area.

The country in this region is rolling, partly wooded, and partly under cultivation. The hill upon which the camp was located is about 400 feet above sea level, and this represents the average height of the hills in this vicinity. From this hill there was a view in all directions over the surrounding country, the horizon to the east and south being at least 50 miles distant from the camp.

The soil of these hills is of sand to a depth of about 8 or 10 feet, and below is a subsoil of red clay varying in thickness from 4 to 20 feet. Below this again is sand, of a fine quality, light in color, and very closely resembling the sand of the seashore. The top layer of the soil is sand a bit coarser than ordinary sea sand but closely resembling it. This sand is quite heavy and, except during high winds, does not blow to any extent, but it washes away badly during heavy rains; and because of this it is difficult to maintain roads and levels. The red clay is admixed with sand, and it packs very well. It is used extensively in the region for the construction of roads, being practically the only material available, as there is no rock or gravel to be found in the region. In the valleys there is a mixture of loam with the sand, and as these are well watered during freshets and after heavy rains they are extremely fertile. Vegetation on top of the hills reminds the observer of the seacoast, with the same scrubby wild pea.

The climate is mild and fairly equable. Summers are hot, the thermometer often reaching 100° F. for many days at a time, and during July and August there are frequent and violent thunderstorms. Hot weather begins about the 1st of June and continues well into September, sometimes well into October. Actual winter weather begins usually about Christmas and lasts six or seven weeks. During that time the winter may be fairly violent, with low temperatures and sleet storms. There is, however, no great precipitation of snow, and if snow falls it melts very quickly. There are a good many days with low temperature and high winds. During the winter of 1917–18 the thermometer once reached 5° above zero in the early morning. The weather in spring and autumn is delightful. October, November, and most of December are very much like early October in New England, with much sunshine and few gray days. Often it is possible to gather roses on Christmas Day. Again from the 1st of February until the last of April the climate is delightful. Spring advances slowly but steadily; there is much sunshine; and there are very few days when the temperature is too high for comfort.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Hancock, Ga.," by Lieut. Col. F. J. Barrett, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The roads in the entire region were rather unsatisfactory, there being no rock for the formation of a roadbed and no suitable gravel for the top dressing. From necessity roads were constructed from the red clay which formed the subsoil. Properly mixed with sand this formed a hard, smooth surface, but it washed away easily during rainstorms and was easily torn up and the surface rendered uneven by heavy traffic. The roads, however, were fairly easily repaired by the use of road scrapers, the addition of more clay, and some rolling. In the valleys between the hills there is comparatively little swampy land, and, owing to the nature of the soil, this can be drained easily. The camp was therefore, comparatively free from mosquitoes.

No date can be set for the organization of the base hospital, for this was a gradual proceeding, occupying several weeks. The first medical officer to report for duty arrived August 14, 1917. At that time the hospital site had not been selected, but some of the neighboring buildings were under construction. Practically the only persons in the Military Establishment present at that time were the constructing quartermaster with his staff, and one battalion of the Georgia National Guard. During the next few days several medical officers arrived, and on August 18, 1917, the commanding officer of the base hospital reported for duty. In conjunction with the constructing quartermaster, his first duty was the selection of the hospital site. Building of the hospital was begun about September 9, 1917, and progressed rapidly. Such rapid progress was made on certain of the buildings that it was possible to admit the first patient on October 14, 1917.

The National Guard regiment from Pennsylvania had been arriving since the last days of August to form the 28th Division, which was to train at Camp Hancock. This division had as part of its sanitary train four field hospitals, and these were set up and used for the accomodation of the sick of the division during the interval preceding the opening of the base hospital. There was no great amount of sickness during this period and no epidemics appeared, so that the field hospitals were well able to care for the sick of the camp. It was not necessary, therefore, to engage temporary quarters or to use local hospitals except for acute surgical cases. The university hospital connected with the medical department of the University of Georgia, at Augusta, opened its doors to the surgical department of the base hospital, and acute surgical cases arising in the camp were operated upon and cared for there. Even after the opening of the base hospital it was not possible to care for acute surgical cases until the middle of January, 1918; apparatus and equipment had not been received, and the heating plant for the operating pavilion was not complete until that time.

Upon its completion there was no formal opening of the hospital, and improvements and additions were constantly made even so late as August, 1918.

The buildings constituting the base hospital were of the type adopted for all National Guard camps. The original orders for the construction of the hospital did not include lining or ceiling the buildings, nor any sewerage and plumbing system. It was not until January, 1918, that the constructing quartermaster began to line and ceil the buildings with heavy beaver board—a much-needed addition because of the very cold weather then being experienced. Those who spent the month of January, 1918, at Camp Hancock are not likely to forget their experiences there. Plumbing had not been installed in the hospital; there was no sewerage system; the hospital was heated only by stoves; and there was no lining to walls nor were there ceilings to hold what heat the stoves gave. There was no hot-water supply, all water being brought in from the grounds and heated by stoves. Added to these handicaps, the weather was exceptionally cold and severe. The work of ceiling and lining the buildings was completed during January, so that after that time life was much more comfortable. About this time also the installation of the plumbing and sewerage systems was begun. At first, the city water mains were brought into the hospital grounds, and fire plugs were located for the protection of the buildings against fire. These mains were tapped at various places in the grounds so that there was provision for water for use in the wards. There was at first no sewerage system, and latrines were placed about the hospital grounds, allowing one for about every four wards. These latrines were of the usual open-air type, and in winter weather were far from comfortable, especially for patients.

Though at times crowded, the quarters throughout the hospital were satisfactory. Six barracks of the standard one-story type were constructed for enlisted men. These were about 160 feet long and 24 feet wide, with four rooms at one end for the noncommissioned officers, and a small common sitting room at the other end. Each barrack accommodated about 50 men. The barracks were very comfortable except for the fact that beaver board for ceiling and lining was not installed until well into cold weather, when troops, patients, and all who were housed in the hospital buildings were very comfortable.

The original building for the officers was long and narrow and was divided into 24 rooms, each room being about 9 by 10 feet, with one window. No bathrooms were provided until the plumbing for the hospital was installed. A latrine was constructed about 60 feet from the end of the building, and the only bathing facilities obtainable at the time were a galvanized-iron bucket, and a faucet in the yard. The building was heated by small stoves, one 6-inch "cannon" stove for each room. Each stove had its separate galvanized-iron smokestack, and the resulting appearance of the long row of these stacks was weird. In the early spring of 1918 three large additions were made to this building, converting it into an E-shaped structure. The two outer wings were for bedrooms, all of the same shape and size as those described above. The center wing contained a good-sized assembly room, a dining room, and a kitchen adequate for the needs of these quarters.

The barracks for nurses were almost exactly like those for the officers, presenting the same difficulties. A nurses' recreation house was built and equipped by the Red Cross.

A society of young ladies of Augusta raised a sum of money by a series of entertainments during the winter of 1917–18, and fitted up the sitting room in each of the barracks with furnishings, curtains for the windows, and other comforts.

Before the plumbing system was installed the men of the Augusta fire department allowed the men of the detachment the use of their shower baths, a privilege which was deeply appreciated.

Because the cooks and their assistants were more or less inexperienced, the kitchen of the hospital was perhaps the most difficult department to establish and maintain. There were five messes at the base hospital—the main mess for convalescent patients, including a diet kitchen for the feeding of ward patients; the enlisted men's mess; the sick officers' mess; the medical officers' mess; and the nurses' mess. The three last named required the least care and attention; they were relatively small and their management much more simple. The patients' mess required the greatest effort and caused the most trouble, as it was the largest, and a variety of needs had to be catered to. The original equipment in this mess consisted of a battery of four-burner gas stoves with fair-sized ovens under each. Aside from these and a somewhat too small refrigerator, there was practically no equipment, except the usual pots and pans. For some reason this hospital did not receive as much equipment as did some other base hospitals, and it was a struggle to get along with the inadequate equipment for feeding patients. In March, 1918, a small hospital fund having accumulated, permission was requested to expend part of it in the purchase of additional kitchen equipment, such as steam kettles, dish washers, potato parers, etc., but word was received that the Construction Division would install these. Installation began in August, 1918. The original equipment included wheel carriages with hot-water trays for food containers, but these trays were too shallow and did not serve during cold weather to keep the food hot. Indeed, the serving of hot food to ward patients was one of the greatest problems of the winter. Most food had to be reheated on the gas stoves in the ward diet kitchens, and even then it is probable that the food served to many patients was not sufficiently hot to be palatable. Hot kettles were improvised by putting small pails into larger ones containing hot water. This helped improve the situation, but the preparation and service of food was far from satisfactory. During the winter of 1917–18 difficulty was experienced also because of low gas pressure, due to fuel shortage. Because of this fuel shortage many householders in the city depended upon gas for keeping their houses warm, and the supply was limited and the consumption excessive.

A dietitian was added to the staff of the hospital about Christmas, 1917, and her efforts greatly increased the comfort of patients as regards their diet. Supplies were abundant at all times.

In the enlisted men's mess much the same trouble was experienced. The kitchen was at the end of the gas main and pressure was often lower there than anywhere else, and on many of the coldest days it was impossible to serve warm food. Breakfast was likely to be the best meal, as it was served before the city people were up and using gas.

The storehouses of the hospital were among the first buildings finished. There were four of them, each about 150 feet long and 25 feet wide. One was assigned to the hospital quartermaster for his use, and the camp medical supply officer and the hospital property officer occupied the other three. Until the later construction of nine two-story ward barracks, these warehouses were sufficient to meet the needs of the hospital, but at least one more could have been used to great advantage.

A building was originally constructed as a laundry, but no machinery was installed. Laundry work was done by a steam laundry in the city of

Augusta, the arrangement proving very satisfactory. Suitable steam laundry facilities were greatly needed.

A chapel was one of the original buildings of the hospital, but it was not used in the early months; it had no furnishings and there was no ceiling. Owing to the proximity of a Young Men's Christian Association building in camp, available for religious purposes, and to the fact that several of the city's churches were only a short distance away, there was no great demand for the use of this building. During January, 1918, there was an epidemic of German measles, and the hospital was filled to overflowing. During that time the chapel was fitted up for a ward. Later, it was turned over to the representative of the Young Men's Christian Association, who fitted it up for the detachment of the hospital and provided it with writing tables and games.

Fortunately, owing to the proximity of the city of Augusta, it was possible to bring gas mains to the hospital for a supply of fuel gas. At first there was only a limited supply of gas stoves, but gradually these accumulated so that before cold weather set in there was at least one installed in the diet kitchen of every ward. These served the dual purpose of warming food for patients, brought over from the mess, and for heating water for the care of patients, and was almost the only approach to the usual comforts obtainable during the severe weather.

From the first the hospital was heated by stoves and furnaces. These were in great variety of sizes and shapes, but the "cannon" type predominated, sizes ranging from grates of 7 to 18 inches in diameter. For the wards hot-air furnaces were provided. Each ward had two of these, of a type ordinarily used for heating small houses. They were mounted at either end of each ward, and above each was placed a large deflector plate in the hope that the hot air would be deflected downward. The scheme was a disappointment, however, as the heat continued to rise and the lower portion of the rooms remained cold. One could stand beside a heater in full operation and yet get no warmth from it. Removal of the outer case of these heaters improved the warmth of the wards, and this measure was adopted. There was a total of 300 "heaters" and stoves set up throughout the hospital, and the labor required to carry fuel to and from these can well be imagined. There was also considerable difficulty from the soiling of the wards by ashes and from the fact that patients persisted in using the stoves as receptacles for all manner of refuse.

The hospital was benefited by its proximity to the city in the matter of lighting, insuring electric lighting from the start. The supply was constant and satisfactory. Power came from a dam on the Savannah River about 12 miles above the city.

The various equipments for fire protection were completed, during the summer of 1918, with the installation of a fire house and a high-powered automobile fire engine of the latest type. In addition, chemical fire engines, a siren whistle, several 40-gallon chemical fire entinguishers mounted on wheels, with a 100-foot hose attached, were installed in several parts of the hospital. There was also a night watchman system for fire protection, with 4 watchmen's clocks and 64 stations. These stations had to be rung up at least once an hour during the night, and were so arranged that a watchman should visit all parts of the hospital at least once an hour. The initial number of hand extinguishers and fire buckets was considerably increased, and an automatic fire-alarm system was added to the equipment.

For its water supply the hospital was connected with the Augusta water system. The arrangement was satisfactory, and the supply never failed.

When the plumbing was installed there was water, both hot and cold, in every ward and in all kitchens and bathrooms of the hospital. Each ward had a bathroom in which there were two hand basins, a bathtub, a shower bath, a dental sink, urinal, and toilets. There was also a slop sink in a room designated the "service room" and the diet kitchen had a satisfactory kitchen sink. Each ward had its own hot-water heater installed in a small lean-to outside, and there was an abundance of hot water.

The sewerage system of the hospital was connected with the sewer mains of the city of Augusta, thus providing for the disposition of all sewage. There were no toilet facilities until the plumbing was installed in February, 1918.

The disposal of garbage was accomplished by digging a pit about 16 feet deep, which took it through the layer of red clay which forms the subsoil in this region, and from 12 to 14 feet in diameter. It was filled up to about 10 feet from the bottom with a cribwork of logs. On top of this cribwork was placed a layer of logs laid close together, and upon these about 4 feet of broken brick, upon which a fire was built and garbage disposed of. A hopper was constructed at one side to take care of the sullage water contained in the garbage. Upon being poured into the hopper this water ran down over the heated bricks into the pit and what was not evaporated ran off into the sands. This incinerator proved very satisfactory and easily took care of all the hospital garbage until some months later when arrangements were made with a contractor to purchase and remove the garbage. Still later a reclamation service, established under the camp quartermaster, assumed the duty of caring for this detail.

The equipment of the base hospital gradually developed from an amount which would be considered extremely scant by a well-established city hospital, to that which would compare favorably with any hospital in the country in this respect. Bed linen was one of the shortages when the hospital was first established. Only about 2,400 sheets were available at first, and for several weeks after the hospital opened, obviously an insufficient quantity for a hospital of 800 beds. Office fixtures were lacking in the early days of the hospital, and in many of the administrative offices and in the office of the ward surgeons it was necessary to construct tables from scrap lumber left by the contractors and from packing boxes in which medical supplies had been delivered. Much of the necessary shelving was at first constructed from these same scrap materials. For a long time there were no tongue depressors and it was a common sight in many of the wards, and particularly in the nose and throat ward, to see convalescent patients whittling them out of box wood. They were then sterilized and distributed throughout the hospital. A great deal of ingenuity was shown by ward surgeons and wardmasters in improvising chairs and tables. In the nose and thoat clinic several very clever tables were devised with bottle and towel racks which were so useful and practical that they were later copied in better material, properly finished.

During the early spring of 1918 the American Red Cross constructed a large house for convalescent patients. This was a very elaborate building and consisted of a large auditorium with stage. The stage and auditorium could be converted in the day time into a large reading and game room. There was also a small kitchen and on the second floor in two of the wings were several bedrooms which were used by the staff of the Red Cross house and for the accommodation of the relatives of sick patients. The Red Cross house was presided over by a Red Cross worker, and a member of the Army Nurse Corps was on duty there as matron. The American Library Association placed many books upon the shelves of this house and assigned a trained librarian for their proper care and distribution to the convalescent patients throughout the hospital. Under the direction of the representative of the Red Cross, entertainments for convalescent patients were arranged, and unquestionably the house was of great benefit to the patients and materially assisted in hastening the convalescence of many by giving them a much-needed change of environment from the hospital wards.

Early in the autumn of 1917 a Young Men's Christian Association worker was on duty at the hospital, working untiringly among both patients and the men of the detachment. In the spring of 1918 he took charge of the chapel, as mentioned above.

After January, 1919, there was a steady decrease in numbers both in the camp and at the hospital. On January 21, the Surgeon General designated this hospital for the care of severely gassed patients whose homes were east of the Mississippi River. About 50 cases were received and carefully studied, particularly with regard to physical signs and the radiographic findings. On February 25 orders were received that the camp and hospital were to be demobilized at once, all gassed patients to be sent to the general hospital at Biltmore, N. C. On March 26, 1919, the base hospital was officially closed, and the buildings turned over to the Public Health Service.

Statistical data, United States Army Base Hospital, Camp Hancock, Augusta, Ga., from October, 1917, to March 28, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
October	......	495	84	......	579	77	1	......	......	......	......	......	1	500	......	4,044	......
November	500	764	14	3	1,281	717	4	17	......	......	......	2	6	535	......	14,888	......
December	535	888	27	......	1,450	699	1	59	......	......	1	......	5	685	......	19,806	......
1918.																	
January	685	1,491	22	......	2,198	968	5	23	......	......	......	347	10	845	......	24,236	......
February	845	1,263	14	......	2,122	1,146	18	10	......	......	......	102	4	842	......	19,051	......
March	842	850	8	......	1,700	957	11	40	......	......	......	19	9	664	......	22,937	......
April	664	968	60	17	1,709	930	7	47	......	......	......	6	21	698	......	20,889	......
May	698	69	1	696	1,464	641	4	15	......	......	......	3	44	757	......	20,209	......
June	757	65	......	1,257	2,079	969	3	60	......	......	......	26	62	959	......	26,669	......
July	959	36	......	1,241	2,236	1,137	4	36	......	......	......	27	52	980	......	27,295	......
August	980	59	10	1,551	2,600	1,206	9	46	......	......	4	20	50	1,265	......	35,213	......
September	1,265	46	31	3,035	4,377	1,679	17	53	......	......	......	265	49	2,314	......	43,684	......
October	2,314	256	330	5,216	8,116	5,295	474	20	......	......	2	......	38	2,287	......	95,804	......
November	2,287	70	23	1,607	3,987	1,704	86	53	......	......	......	22	13	2,109	......	62,347	......
December	2,109	66	23	980	3,178	2,014	39	26	......	......	......	21	34	1,044	......	51,425	......
1919.																	
January	1,044	137	19	1,041	2,241	1,219	70	26	......	......	......	18	52	856	......	33,852	......
February	856	79	12	286	1,233	745	6	58	......	......	......	24	30	370	......	17,456	......
March	370	17	1	117	505	227	2	23	......	......	......	241	12	......	......	6,482	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Hancock, Augnsta, Ga., from October, 1917, to March 28, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1918.				
January		1		1	October	7			7
February		1		1	November	7			7
March		1		1	December	9			9
April		1		1					
May		7		7	1919.				
June		8		8	January		5		5
July	7			7	February		5		5
August	6			6	March		1		1
September	6			6					

PERSONNEL ON DUTY.

Year and month	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
October	40	2	1	43	274		274	
November	39	2	1	42	279		279	1
December	45	2	1	48	276		276	30
1918.								
January	46	2	1	49	285		285	45
February	48	2	1	51	392	17	409	78
March	54	2	1	57	311	17	328	84
April	74	1	2	77	522	17	539	90
May	60	1	1	62	303	17	320	93
June	61	2	1	64	400	17	417	109
July	55	3	1	59	400	18	418	102
August	58	3	1	62	529	18	547	91
September	67	3	1	71	512	18	530	98
October	68	5	1	74	523	19	542	107
November	66	4	1	71	534	19	553	113
December	77	4	1	82	534	18	552	101
1919.								
January	66	5	2	73	722	16	738	129
February	52	4	2	58	642	13	655	116
March	8		4	12	52		52	

BASE HOSPITAL, CAMP A. A. HUMPHREYS, VA.[a]

Camp A. A. Humphreys was situated in Fairfax County, Va. The nearest town was Alexandria, Va., 12 miles distant, with a population of about 15,000; Washington, D. C., was about 18 miles away.

The camp occupied Belvoir Peninsula, which is rolling and wooded, and about 3 miles long and one-half to 2 miles wide. On the east is Dogue Bay; on the west, Accotink Bay. The point of the peninsula is in the Potomac River, about 20 miles from Washington. On the east side, the shore is heavily wooded and rises abruptly for 100 feet to a comparatively level plateau. On the west, the rise from Accotink Bay is more gradual, and level ground is not reached for half a mile. The plateau runs north and south, and makes possible the boast that Camp Humphreys had the longest parade ground in the United States. The point of the peninsula, from the Potomac north for about a mile, is very rolling, with an abrupt rise to the south end of the parade grounds. On the edge of the plateau, a half-mile east of the shore of Accotink Bay, and separated from the southwest corner of the parade ground by a quarter mile of timber, was the base hospital. Its situation was ideal: half a mile east, across the parade ground, was the headquarters and the civic center of the camp, and thus the hospital was conveniently near for ease of access, yet sufficiently distant to escape the noise and bustle of camp life.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp A. A. Humphreys, Va.," by Maj. J. M. Greer, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The soil is clay, with occasional outcroppings of gravel. While the soil forms mud when mixed with water, it is not distressingly tenacious. The neighborhood of the parade ground became very dusty in summer, but the base hospital did not suffer from dust, nor was it visited by disagreeable winds.

The pine, oak, hickory, chestnut, elm, cedar, and sycamore trees were carefully preserved, and served the purpose of both beautifying and protecting. Even in winter, when the deciduous trees had been stripped, there was enough pine and holly to rest the eye.

The roads about the hospital were not ideal. On the east side there was a clay road, fine in dry weather, but rather muddy in rainy weather. On the west side an attempt was made to make a cinder road, but coal dust was used, with a result that may be left to the imagination. However, the site was so excellently drained that the character of the road structure was not a serious consideration.

The history of the base hospital begins with the original hospital, at the very point of the peninsula, on the shore of the Potomac. The site, though comparatively low—not more than 25 feet above tide water—was naturally well drained. From April 28, 1918, to September 13, 1918, this was where the hospital was located. This original hospital, or camp hospital as it was then called, took the name of Belvoir. The only building available was a rough, wooden, one-story barracks, formerly occupied by soldiers in training. It was partitioned into five rooms, three of which were used as wards, one as an emergency operating room, and the fifth as the administration office. Conditions were very trying. A real base hospital was promised; therefore no expensive improvements were attempted at Belvoir. The water supply, from a deep well, pumped to the latrines and kitchens, was excellent when the pump worked; but the water was not piped to any of the barracks, and the hospital supply had to be carried in buckets to kitchen or latrine. On more than one occasion the pump failed to work, and the water was transported in cans by truck from the main camp. From this small beginning of five rooms on April 28, 1918, the hospital grew steadily. On May 29, an order was issued by the War Department changing its name from camp hospital to base hospital, Camp A. A. Humphreys. By the following September, 27 buildings were required to house patients, the medical detachment, medical officers, and equipment. There was finally a bed capacity of 350, which included about 50 beds in tents placed about the grounds and used for contagious cases and isolation purposes. On September 13, 1918, the surgical ward and operating room equipment were moved to the new hospital. As rapidly thereafter as equipment could be installed the remaining wards were moved. Last of all, the administrative offices were moved. By September 20, everything was running smoothly, and plans for a formal opening were discussed. At this time, however, the hospital was far from complete, either in buildings or in equipment. The original plans called for 45 wards, arranged in sections, the various wards in each section opening into a common corridor, each of the corridors being connected with a main central corridor. At the time of occupation only three sections were completed. From September, 1918, to the beginning of 1919, progress toward completion was provokingly slow. Labor shortage, the influenza epidemic, and the armistice combined to delay construction. The original plans included an additional building for officers' quarters and an additional one for nurses. These buildings never materialized, leaving both officers and nurses rather uncomfortably crowded.

Officers were quartered in two buildings. The staff officers' quarters, for the accommodation of the commanding officer, a registrar, and the chiefs of the medical and surgical services, were roomy, fitted with toilet and bath, and were conveniently located opposite the administration building. Large quarters, with kitchen and mess hall opposite the officers' ward, housed the rest of the commissioned officers. The original plans called for an additional building; but as this was never erected, the officers had to "double up," two occupying a room large enough for only one. The detachment, Medical Department, was quartered in three large two-story barracks on the east side of the hospital. A fourth building, intended for the detachment mess hall, was converted into a recreation room for the enlisted men. These quarters were steam heated and fitted with baths and toilets.

There were three messes in the hospital. A general mess, the largest, was fitted with every necessary appliance. This served the enlisted men of the detachment, as well as the convalescent patients. The large, airy mess hall, adjacent to the kitchen, was so arranged that each table of 20 men was presided over by a noncommissioned officer whose duty it was to see to the conservation of food and to insure proper conduct at the table. Each presiding noncommissioned officer was responsible to the mess sergeant. Food for patients on light and liquid diet was prepared in the diet kitchen under the direct supervision of the dietitian. The nurses had their own kitchen and mess in their quarters. The commissioned officers and officer patients had a common mess in the officers' ward.

There were two large one-story warehouses situated about a quarter of a mile from the base hospital. Each building was divided into two by a brick fire wall 2 feet in thickness. The buildings were of such dimensions (400 feet long and 50 feet wide) that it was possible to carry a three months' supply of medical property for the base hospital as well as for the field organizations. The warehouses were heated from the hospital heating plant.

The hospital chapel was never used for religious purposes. During the influenza epidemic the building was used for the overflow from the mortuary; otherwise the chapel was not utilized. Religious services were held in the detachment mess hall, in the nurses' mess hall, and in various other places, including the Red Cross recreation building.

All laundry work was done by the Alexandria Laundry (Inc.) under contract. The arrangement was quite satisfactory except during the influenza epidemic, when the laundry plant was overtaxed.

The hospital water supply was from the camp supply, the source of which was Accotink Creek at a point about 3 miles from camp. From the creek it was carried by wood pipes to a filtration and chlorination plant at Accotink, and from there to a centrally located steel supply tank with a capacity of 300,000 gallons, thence to every building in the cantonment. The water was excellent in quality.

The hospital sewerage system was, likewise, a part of the camp sewerage system. Every ward, and the officers', nurses', and detachment quarters were well equipped with the most modern type of tub and shower baths, lavatories, urinals, and closets.

The base hospital had the most complete, as well as the largest, steam heating system in camp. The buildings were all heated by direct radiation, the steam for which was supplied by a central boiler plant. The central boiler plant consisted of 150-horsepower return tubular boilers, brick set, vacuum pumps, boiler feed pumps, feed water heater, and such other accessories as were necessary for a complete installation. It was operated by the personnel of the utilities detachment, consisting of 1 officer and 37 enlisted men.

The boilers operated at a steam pressure of about 100 pounds, which was reduced by valves, to about 60 pounds before the steam entered the main lines to the hospital buildings. This permitted a supply of steam at this pressure within the buildings for cooking and sterilizing purposes, and a further reduction to about 5 pounds pressure provided steam at a suitable pressure for heating purposes. At the return end of each radiator and steam coil was installed an automatic return trap of the fluid disk type. This trap prevented the loss of steam into the return lines, and permitted the free passage of air and water of condensation into the return line, and out of the heating system. It was intended to install a complete return line system to convey this water back to the boiler plant, where it could be fed back to the boilers. Due to the shortage of pipe this was not done, and the water wasted to the sewer at the most convenient point. It is evident that there was an enormous waste of water and heat: large quantities of make-up water were necessary at the boiler plant, the temperature of this fresh water had to be increased, when otherwise this would have been unnecessary, and scale-forming elements had to be removed in large quantities. The waste of fuel and the injury to the boiler plant can hardly be estimated. The pumping plant for the camp was not designed to handle this additional load thus placed upon it. In the event of the necessity of shutting down the pumping plant, it would have been necessary to shut down the heating plant also.

The light and power system of this camp consisted of a system of distribution lines, 3-phase, 60-cycle, 2,300-volt primary and 220–110-volt 3-wire secondary extending to all parts of the camp. The system was divided into four circuits, No. 2 being the circuit that supplied the base hospital. Electric current was purchased from the Alexandria County Lighting Co., which had a transmission line supplying the camp exclusively.

In the early days the hospital equipment was very meager. Beds, linen, blankets, and like supplies were sufficient. But the water supply, as noted above, was very inconvenient; the only means of sterilization was a kerosene stove; and the almost impassable condition of the roads in April, May, and

June, 1918, made new supplies very uncertain. This condition steadily improved, until by September 20, when the new hospital was taken over, everything was running smoothly. During the influenza epidemic the property office was fairly "swamped." While, eventually, the hospital became well equipped, especially for ordinary purposes, there were times when need arose for instruments not procurable through military channels, or which, if obtainable, would have been too long on the way; these were supplied by the officers on duty.

On May 27, 1918, the hospital exchange was started by purchasing outright, on credit, the stock of the exchange of the 51st Engineers. By the end of June, after a little over a month, the exchange had assets, over and above liabilities, of $1,825.19. After that date the average gross business per month was $6,000.

At Belvoir the Young Men's Christian Association proved a very efficient organization in spite of the difficulties of transportation. At the base hospital there was no Young Men's Christian Association building, the detachment mess hall being used as a recreation room, under the supervision of the association. A plentiful supply of magazines, home papers from practically every State in the Union, a pianola, and material for other recreations were available.

The completion of the Red Cross recreation building was delayed because of the scarcity of labor and materials. Two associate directors of the Red Cross were stationed at the hospital, their chief duties being to visit the patients daily, and to aid, as far as possible, in making them comfortable and cheerful. By furnishing stationery and reading matter, by communicating with the relatives and friends of the sick, by shopping for the patients, and in many other ways, valuable assistance was rendered.

In February, 1919, the base hospital reverted to the status of camp hospital.

Statistical data, United States Army Base Hospital, Camp A. A. Humphreys, Va., from June, 1918, to February 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
June	209	563	30	......	802	325	1	2	......	......	......	227	9	238	......	6,125	......
July	238	750	35	9	1,032	402	3	8	......	......	......	378	4	237	......	7,642	......
August	237	698	78	5	1,018	455	3	2	......	......	......	252	8	298	......	7,226	......
September	298	1,002	197	5	1,502	378	32	10	......	......	......	440	12	612	18	11,582	41
October	630	1,915	383	28	2,956	1,114	405	5	......	......	......	828	22	578	4	31,379	798
November	682	801	13	4	1,500	586	21	8	......	......	......	299	9	572	5	13,863	96
December	577	559	15	11	1,162	618	23	14	......	......	......	154	10	343	......	14,722	......
1919.																	
January	343	566	4	16	929	550	14	3	......	......	......	39	40	279	4	9,910	52
February	283	375	1	13	672	409	5	2	......	......	......	13	22	220	1	7,095	26

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file ,Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp A. A. Humphreys, Va., from June, 1918, to February, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
June	26	2	2	30	272	15	287	....
July	25	5	1	31	262	15	277	....
August	30	4	1	35	253	14	267	....
September	33	5	2	40	338	14	352	....
October	39	3	7	44	393	14	407	68
November	32	4	2	38	383	13	396	99
December	23	2	2	27	425	13	438	73
1919.								
January	27	1	2	30	310	12	322	63
February	27	1	2	30	306	10	316	39

BASE HOSPITAL, CAMP JACKSON, COLUMBIA, S. C.[a]

The base hospital at Camp Jackson was situated in the midst of the "sand hill" country of Richland County, S. C., 7 miles east of Columbia, the State capital. It covered an area of 80 acres at the highest point of the reservation, 500 feet above the sea level, and on the summit of a hill which was scantily covered by dwarf oaks and a few long-leaf pines. The hospital area was free from running or standing water.

The soil of the locality is sandy, with a substratum of clay. Here are the sand dunes which mark the western-most limit reached by the ocean, at the junction of the Piedmont Plateau and the alluvial plain stretching 120 miles to the coast. The hospital area was practically denuded of every living green thing; the resulting bare stretch of sand, which was very glary in the sun, rapidly absorbed the heaviest rainfalls, and the fine dry sand was readily blown about by the winds, at times amounting to sand storms.

The climate of this section of South Carolina is ordinarily dry. The average winter temperature is 47°. The winter of 1917–18 was the coldest in 32 years, the temperature dropping, at one time, to 6° F. above zero. The mean daily range is 23°. The average summer temperature is 79°, with cool nights. Gently blowing breezes, mostly from the southwest, are almost constant, and seldom attain a greater velocity than 7.4 miles per hour.

The roads in and leading to the base hospital grounds were made of sand-clay, similar in character to the standard highways of South Carolina. In dry weather these roads were good, though very dusty; but in wet weather, or when there had been a frost, they were unsatisfactory because of the deep ruts which rapidly formed, requiring prompt attention. The last week in November, 1918, marked the beginning of the construction of a concrete road around the hospital area, a sorely needed improvement. Until June 1, 1918, there were no roads through the hospital grounds, and the delivery of supplies was greatly hampered. Autos and wagons sank into the loosely packed sand, frequently becoming stalled. Abuse of motors, waste of gasoline, and delay in delivery of goods resulted.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Jackson, S. C.," by Lieut. Col. S. R. Roberts, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The hill on which the hospital was located sloped gently down to the lowlands about a quarter of a mile distant. The lowlands were swampy, were covered by a heavy growth of vegetation, and had sluggishly running streams and pools of standing water, which furnished ideal breeding places for mosquitoes, both Culicidæ and Anopheles. The immediate neighborhood of the hospital was occupied by poor, small farmers, both white and negro, whose homes, buildings, and surroundings generally were badly kept and insanitary. Within a few miles, however, were many fine farms with modern homes and buildings, containing every sanitary convenience, and occupied by intelligent, clean-living, well-to-do farmers.

Prior to the occupancy of the base hospital the least seriously sick were cared for in field hospital "A," while those more dangerously ill or requiring major operations, were treated in the Baptist Hospital in Columbia by members of the base hospital staff.

Preceding the formal opening of the hospital proper, a part of the hospital detachment occupied the detachment barracks. The wards were occupied by patients October 22, 1917, before heating or plumbing facilities had been completely installed. The two central sections were heated from the central plant December, 1917; the last part to be so heated was the contagious section, which was not until late January, 1918. The hospital was constantly growing, new buildings being added weekly. Much of this delay in construction was due to faulty management and lack of intelligent honest supervision.

The greater portion of the hospital was of the single-story pavilion type, each ward occupying a separate pavilion, and accommodating 32 patients. A later addition, of 980-bed capacity, was of two-story construction, each building housing 80 patients. This was intended primarily for ambulant and convalescent patients still needing hospital care. All these buildings were connected by covered, screened board walks. In addition, there was a convalescent camp for those no longer ill, yet not able to do duty, and for those awaiting discharge on surgeon's certificate of disability. This last group was housed in board shacks, each accommodating eight men.

The officers' quarters were inadequate from the first, and no mess hall was provided them. From the opening of the hospital until the middle of April, 1918, the medical officers were required to eat in the sick officers' mess, under crowded conditions. Some duty officers were lodged, at first, in the officers' ward quarters.

The original nurses' quarters, like the officers' quarters, were too small. The erection of a second building still proved inadequate, and four additional dormitories were constructed. In addition, the Red Cross built a recreation hall for nurses, near the Red Cross building.

The detachment barracks were built to accommodate 58 men each. The eight buildings for this purpose were steam heated, lighted by electricity, and had bathhouses and toilets just outside. The mess was in a separate building. The buildings proved inadequate, and during the summer of 1918 some of the enlisted men occupied ward barracks.

The main kitchen was equipped with all the modern appliances for the preparation of food by means of high-pressure steam, such as vegetable steamers, boilers, soup kettles, roasting ovens, and tea and coffee urns. A dish-washing machine was part of the equipment. There was a diet kitchen for the preparation of special diets. The mess hall was used for ambulatory patients only, bed patients being served in their wards from this mess, the food being sent to wards in food carriers which were heated by hot water, and the food served individually on trays. These food carriers were found, in actual practice, to fail in their purpose of keeping the food hot.

The division of sick officers had its own kitchen and mess halls, the latter being so arranged that convalescents from different communicable diseases could be fed separately. The kitchen and mess halls were separate from the living quarters.

The detachment, Medical Department, was quartered in two buildings, each of which had a kitchen and mess hall, supervised by a mess officer. The mess hall in one building accommodated 300 and in the second 200, and there were 1,050 to be served. The mess halls were entirely too small and their equipment totally inadequate.

The mess for nurses was in the nurses' home, and was supervised by a mess officer. The cafeteria plan was employed, and proved very satisfactory.

The staff officers' mess was in the wing with the staff officers' quarters. The expense of the mess was defrayed by the officers participating. It was in charge of a mess officer and a dietitian.

Lavatories and baths were of two types: those in immediate connection with individual wards, and those common to two wards. The latter arrangement was unsatisfactory. The necessity for the isolation of various types of communicable disease, and the desirability of a separation of races, rendered such an arrangement unsatisfactory. Lavatories and baths were connected with the main cantonment sewer.

The base hospital was heated from a central heating plant the equipment of which consisted of one return tubular, high-pressure boiler (the pressure being from 70 to 90 pounds), and 15 cast-iron sectional low-pressure boilers, with a maximum pressure of 12 pounds. This system was faulty in its inception, installation and operation: the feed water was cold; the condensation from the heating system was wasted, there being no return. The sectional boilers operated at a pressure of 12 pounds or less with a draft suitable for boilers of the return tubular type. To supply heat to the buildings farthest removed from the plant, fires were forced to the absolute limit, so that the breachings to the stack were made red hot, with a consequent loss of heat up the stack. This deserved unquestionable condemnation. During the summer of 1918, this heating system was so altered as to eliminate its faults.

Water for the camp supply was taken from the Congaree River at Columbia, pumped first into the sedimentation basin, then through rapid sand filters, with the use of alum as a coagulant, and later through a 16-inch main to a reservoir of a capacity of a million and a half gallons. From this reservoir the hospital water supply was pumped to a 30,000-gallon tank on Jones Hill, from which it flowed, by gravity, to the hospital buildings adjoining. The hot water was supplied from the central heating plant.

The hospital area had a gravity flow sewerage system. The sewage was treated by means of a specially designed Imhoff septic tank. All hospital buildings, except the convalescent camp, were connected to this sewerage system. The water-closets, urinals, utensil hoppers, shower and tub baths, were grouped in compartments at one end of the ward, and were generally clean, efficient, and inoffensive.

Garbage from the kitchen was separated into four classes: (*a*) Bones, fats, and grease; (*b*) other kitchen waste (drained); (*c*) tin cans; and (*d*) paper, rope, twine, and bottles. The hospital kitchen waste was disposed of as follows: Each kitchen was provided with eight garbage cans for handling the material. The waste classed as (*a*) and (*b*) was disposed of by a contractor, who removed it each day, using it as food for animals and for by-products. The waste classed as (*c*) and (*d*) was incinerated at the camp. Other waste, such as soiled dressings, sputum cups, etc., as well as tea leaves, coffee grounds, and other combustible material, was disposed of in a small incinerator near the reservoir.

While no animals were stabled around the hospital, the droppings from the animals used by the contractors accumulated at various points on the hospital grounds, proving, with the advent of warm weather, ideal breeding places for myriads of flies. These fly-breeding spots were eliminated in time.

When the hospital was turned over to the Medical Department by the contractors, many minor faults of installation were found in the lighting system, but these were all corrected. Extensions were made as needed, and the lighting system eventually became satisfactory. The lines, however, were heavily loaded, owing to the large number of new buildings, and to the fact that the hospital area was supplied from the same circuit as the camp laundry, where the use of current was heavy.

The building designed for the purpose of a hospital laundry was never utilized in this manner, but was used for a detachment mess, because of the need of quarters. The hospital laundry was sent weekly to the camp laundry, and on its return was stored in a warehouse of the base hospital, until reissued to the wards. The patients' wearing apparel, shirts, underwear, socks, and handkerchiefs, were sent daily to the camp laundry as individual bundles. These bundles were returned, clean, in 24 hours, and were given to the patients upon their discharge from the hospital.

The hospital chapel was first occupied by the Young Men's Christian Association, February 1, 1918, in lieu of a building of their own, and under their auspices entertainments and religious services were conducted there. The chaplain, who arrived February 18, alternated services, morning and evening, with the representative of the Young Men's Christian Association. At times services were held by representatives of Baptist, Lutheran, Episcopal, Methodist, and Catholic churches. In May, 1918, this building was made the detachment supply office, a new chapel being erected, in a better location.

The base hospital treated all cases arising in Camp Jackson, and medical, surgical, and venereal diseases from overseas.

When the hospital was opened to receive patients (Oct. 22, 1917), the only medical supplies on hand were parts of the first Wolfe unit received. This was completed in about three weeks, and was later increased to accommodate a capacity of 1,000 beds. In a short time epidemics began to appear, and the arrival of the necessary supplies to take care of the rapidly increasing number of patients was very slow. This was due, principally, to the freight congestion on all railroads. On June 1, 1918, the capacity of the hospital was 2,398 beds, and the medical supplies on hand or requisitioned were sufficient to meet the needs.

The base hospital post exchange was started in October, 1917, on credit. After the declaration of the dividend in May, 1918, the exchange was worth approximately $6,000.

The Young Men's Christian Association used the chapel until May 12, 1918, when its own building was ready for occupancy.

The Red Cross had a building for supplies and offices, and another for an office, a cafeteria, recreation, and for the accommodation of relatives visiting patients. It also erected a nurses' recreation house. The society was helpful to soldiers in many directions.

In addition to the recreations furnished by the Young Men's Christian Association and the Red Cross, there was an elaborate set of bowling alleys, conveniently situated, and operated without charge, by the hospital. There was also an extensive athletic field with a baseball diamond, tennis courts, a running track, and a boxing arena. Reading matter was provided for the entire personnel, a special library being arranged for the tuberculosis patients. Music was furnished by civilian singers, the camp band, and phonographs. Games were generally provided, and a moving-picture machine was installed.

In July, 1919, the base hospital reverted to the status of camp hospital.

Statistical data, United States Army Base Hospital, Camp Jackson, Columbia, S. C., from October, 1917, to July 16, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
October	......	320	......	......	320	137	......	......	......	......	......	......	......	183	......	1,254	......
November	183	2,556	......	......	2,739	1,944	15	3	1	......	......	......	......	776	......	16,075	......
December	776	1,283	......	......	2,059	661	78	14	2	......	......	465	......	839	......	21,081	......
1918.																	
January	839	1,834	......	1	2,674	1,527	41	......	1	......	2	258	......	845	......	21,807	......
February	845	1,295	......	19	2,159	1,386	16	1	2	......	......	26	......	728	......	17,247	......
March	728	1,998	......	13	2,739	1,755	19	4	4	......	......	32	25	900	......	22,172	......
April	900	1,958	......	22	2,880	1,810	16	4	3	......	......	9	......	1,038	......	23,794	......
May	1,038	3,365	......	34	4,437	2,588	37	......	2	......	......	......	3	1,807	......	37,118	......
June	1,807	3,394	......	68	5,269	2,995	19	161	10	......	......	34	2	2,048	......	52,852	......
July	2,048	3,095	......	71	5,214	2,676	15	243	5	......	......	35	103	2,137	......	56,354	......
August	2,137	2,576	......	94	4,807	2,504	12	293	9	......	......	30	96	1,863	......	62,206	......
September	1,863	7,652	......	83	9,598	3,880	52	182	2	......	......	30	90	5,362	......	74,912	......
October	5,362	4,789	......	463	10,614	7,408	358	100	11	......	......	26	201	2,510	......	94,891	......
November	2,510	1,681	......	829	5,020	2,358	72	123	1	......	......	12	903	1,551	......	70,596	......
December	1,551	1,622	......	208	3,381	1,871	32	89	......	......	......	3	311	1,075	......	70,599	......
1919.																	
January	1,075	1,596	120	89	2,880	1,608	43	49	2	......	13	......	149	1,016	......	34,078	......
February	1,016	899	92	3	2,010	1,031	14	38	5	......	......	30	79	813	......	23,997	......
March	813	564	565	14	1,956	1,119	5	33	1	......	......	43	40	715	......	22,346	......
April	715	521	480	16	1,732	956	3	25	......	......	......	42	9	697	......	21,057	......
May	697	356	298	23	1,374	800	3	22	......	......	......	96	32	421	......	18,725	......
June	421	375	55	31	882	453	4	16	......	......	......	62	25	322	......	11,468	......
July	322	186	......	12	520	184	3	9	......	......	......	......	29	295	......	4,133	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Jackson, Columbia, S. C., from October, 1917, to July 16, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1917.				
October	3	2	....	5
November	5	3	....	8
December	3	3	....	6
1918.				
January	3	3	....	6
February	3	3	....	6
March	3	3	....	6
April	3	3	....	6
May	3	3	....	6
June	4	3	....	7
July	4	7	....	11
August	3	6	....	9
September	3	5	....	8
October	3	4	....	7
November	3	4	....	7
December	2	2	....	4
1919.				
January	3	3	....	6
February	2	3	....	5
March	2	4	....	6
April	2	4	....	6
May	2	4	....	6
June	2	2	....	4
July	1	2	....	3

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
October	30	....	....	40	134	....	134	14
November	54	....	....	54	253	....	253	47
December	67	....	....	67	306	....	306	63
1918.								
January	74	....	....	74	307	....	307	79
February	75	....	....	75	304	....	304	108
March	83	....	....	83	325	....	325	108
April	101	....	....	101	599	....	599	112
May	96	....	....	96	908	....	908	120
June	158	....	....	158	1,094	....	1,094	138
July	140	7	4	151	819	....	819	140
August	98	8	5	111	822	....	822	191
September	151	9	6	166	1,485	12	1,497	192
October	148	11	7	166	1,138	11	1,149	317
November	157	12	7	176	1,254	17	1,271	321
December	94	11	7	112	1,054	14	1,068	217
1919.								
January	79	11	5	95	961	14	975	180
February	71	11	10	92	819	9	828	166
March	57	9	16	82	460	1	461	153
April	43	9	13	65	454	1	455	84
May	35	7	10	52	441	....	441	76
June	33	5	3	41	283	....	283	60
July	21	3	1	25	163	....	163	30

BASE HOSPITAL, CAMP JOSEPH E. JOHNSTON, JACKSONVILLE, FLA.[a]

Camp Joseph E. Johnston was located in Duvall County, Fla., 11 miles west of the city of Jacksonville. The terrain upon which the camp was placed was quite flat. The region was sandy and well wooded. There was no high-flying dust in dry weather, nor was there any mud after rains. The hospital was located on the St. Johns River about 20 miles from its mouth. At the location of the hospital the width of the river approximated 2 miles. To the south of the hospital site there was a large swamp, and a smaller similar area to the north. These low areas were drained by a system of ditches previous to the mosquito breeding season. However, some of the lower portions held seepage water which had to be oiled to control the mosquito breeding.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Joseph E. Johnston, Fla.," by Lieut. Col. A. D. Davis, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

Roads in and about the base hospital were of concrete and ordinarily well kept. The majority of the roads within the camp were made of concrete, though a few were of gravel and sea shell construction. The main road which led from the city of Jacksonville to the camp was made of brick and was maintained in a very satisfactory condition.

Under normal conditions the climate of Jacksonville is equable, although there are frequently cold bracing days in winter and high hot temperatures in summer. In early spring and in late autumn one finds the most pleasant seasons of the year. The changes in the weather conditions of this region are due chiefly to the shifting of the areas of high and low barometric pressure over the country. In winter a spell of rainy weather is nearly always followed by a shift of wind to westerly through the south and colder weather within 24 hours. The presence in this vicinity of the West Indian storms, known as hurricanes, always produces a marked departure from normal weather conditions, but these storms, however, are not of frequent occurrence. On the average, January is the coldest month of the year, although the annual minimum temperature occurs most frequently in December, and the lowest temperatures ever recorded were in February. The mean temperature reaches its lowest point during the first week of January and its hottest in about the middle of July. The daily minimum temperatures throughout the year nearly always occur about the time of sunrise; and the daily maximum temperature in winter occurs about 2 p. m.; in the spring and late autumn at 1 p. m.; and in August and September about noon.

There were no temporary or emergency hospitals in use prior to the construction of the hospital proper.

The organization of the hospital dates from December 24, 1917. The first ward to be opened was the medical ward, which received its first patients on the afternoon of December 24. The remainder of the wards were completed and turned over to the Medical Department at intervals of a few days. They were equipped for the reception of patients as rapidly as they were received.

At the time the hospital was opened much inconvenience and discomfort were occasioned in both the officers' and nurses' quarters as the result of improper heating arrangements. The buildings were constructed of green timber and were damp and uncomfortable as living quarters. Within a few weeks after the opening of the hospital these quarters were insufficient to accommodate those on duty. Some officers were compelled to live in tents temporarily, while a large number of nurses were taken care of by assigning to them a portion of the officers' ward. Subsequently, additional quarters for both officers and nurses were provided. These were well built, properly screened, had good bathing facilities and adequate sewerage. The camp supply of water heaters for furnishing hot water for bathing purposes was provided, but a proper system of heating was not installed, and the discomfort on the part of the officers and nurses was considerable.

The barracks for housing the enlisted men were of the same general construction as the rest of the hospital. Each barrack building was provided with two large stoves and had ample bathing and toilet facilities.

The hospital mess was opened at noon December 24, when a very light meal was served to the original 8 officers on duty at the hospital. Before night the census was increased by 30 enlisted men and 6 patients, and the next day, being Christmas, full rations and diets, which included generous quantities of turkey, were served, though the poor condition of the roads prevented the arrival of some of the articles on the menu, as frequently happened during the first month of the maintenance of the hospital. Until January 15, 1918, all meals of the patients, enlisted men, officers, and nurses were served in the main mess hall of the hospital. On this date the officers' mess was started. On January 8 the first of the nurses arrived for duty at the hospital, and for a few days had their meals with the officers, in the main mess hall. When the officers' mess was started they ate there until their own mess hall was opened on January 29, 1918. The enlisted men's mess was not organized until February 5, 1918.

On February 26 a diet kitchen was started in connection with the main kitchen.

Lavatories and baths were located in all the building units in which either officers, nurses, patients, or enlisted men were housed. In addition, tub baths were located in each of the wards designated to receive patients.

A water carriage sewerage system emptied into the St. Johns River.

The source of the water supply was two driven wells, the depth of one being 700 feet and that of the other 410 feet. The water from these two wells was pumped into a reservoir, the capacity of which was 100,000 gallons, and distributed therefrom by gravity method similar to that throughout the camp. In the beginning a process of chlorinating the water was attempted without much success, and was later abandoned. During April, 1918, examinations in the laboratory of the hospital revealed the presence of the bacillus coli in the water. This condition soon cleared up, however, after adequate measures were taken to keep the tanks covered and protected from foreign substances. Later laboratory examination showed no coli bacillus and a very low bacteriological count.

With the exception of the operating pavilion, which was provided with steam heat, all of the buildings in the hospital were heated by stoves. Though no patients suffered from cold during the winter, the system was found to be far from satisfactory: the care of this large number of stoves entailed considerable labor, requiring the services of a large number of enlisted personnel, illy spared from other pressing duties; the winters, while neither severe nor of great length, are characterized by extreme and sudden changes, and it was not unusual to have a maximum of temperature of 72° one day, followed by a minimum of 26° to 30° the day following.

The hospital was electric lighted throughout, the current for the system, in common with that of the camp, being furnished by the city of Jacksonville. The service was entirely satisfactory.

Garbage from the hospital was disposed of largely by a civilian who was under contract with the camp quartermaster. The garbage was collected daily, the contract calling for a separation of the various forms of wastes. All garbage from the contagious area of the hospital was burned in an incinerator.

The equipment for a 500-bed hospital was on hand in the warehouse, assigned to the Medical Department, and ready for distribution to the various building units many weeks before the hospital was ready for its reception. Subsequently the hospital was increased in capacity to 900 beds, and during the influenza epidemic in October, 1918, quickly constructed accommodations for 2,000 patients. The equipment of the hospital was adequate at all times.

The hospital post exchange was opened February 1, 1918, operating very successfully thereafter. The business of the exchange increased each following month until in September the financial transactions amounted to $13,000. The exchange purchased and paid for all fixtures and stock and the dividends by the end of the year 1918 had a net worth of approximately $10,000. The profits were used for incidentals which were not supplied by the Government, such as improvements in the hospital, entertainments for the patients, etc. There was a reading room and a sun porch for the benefit of the patients and enlisted men of the detachment, which was furnished by the ladies of Jacksonville. In the exchange there were operated an ice cream and soda counter, a haberdashery and notions department, a sanitary barber shop, an optical supply department, and a modern tailor shop.

There was no Young Men's Christian Association building in connection with the hospital. However, early in the history of the hospital a representative of the association was appointed to give all of his time to care for all those needs of the patients and enlisted men that could possibly be supplied by this organization. Writing material, stamps, books, and magazines were abundantly supplied. Mid-week and Sunday services were held in the chapel. Moving pictures were shown, athletic material was supplied, and entertainments and games were fostered.

There were two Red Cross buildings on the hospital grounds erected and dedicated to the hospital. These buildings were the center of recreation and education for both the hospital personnel and patients. The services of the Red Cross representatives were invaluable. The society furnished emergency supplies for the needs of the hospital, the patients, and the personnel. Many times the Red Cross was able to supply the medical, surgical, and dental departments at once with supplies that it was impossible to get immediately from the Government.

Statistical data, United States Army Base Hospital, Camp Joseph E. Johnston, Jacksonville, Fla., from December, 1917, to February, 1919, inclusive. [a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
December	......	7	182	1	190	129	......	......	......	......	......	39	1	21	......	704	236
1918.																	
January	87	885	456	......	1,428	937	11	......	......	......	......	......	3	474	3	9,523	......
February	477	986	17	4	1,484	966	12	36	......	......	......	20	2	448	......	13,916	......
March	448	864	19	6	1,337	848	3	44	......	......	......	......	10	432	......	12,178	......
April	432	1,470	21	5	1,928	1,372	2	32	......	......	......	2	5	515	......	16,703	......
May	515	1,364	12	4	1,895	1,355	8	33	......	......	......	2	8	489	......	13,543	......
June	489	1,518	9	3	2,019	1,373	3	22	......	......	5	8	14	594	......	13,424	......
July	594	1,378	13	4	1,989	1,299	8	28	......	6	......	13	4	631	......	19,569	......
August	631	2,000	20	1	2,652	1,729	4	57	2	2	......	1	1	856	......	18,970	......
September	856	1,799	81	7	2,743	1,669	12	92	......	3	......	8	8	951	......	22,152	......
October	951	3,135	42	7	4,135	3,242	148	22	......	......	......	66	6	651	......	40,599	......
November	651	799	29	4	1,483	845	5	39	......	......	3	......	9	582	......	19,142	......
December	582	686	29	3	1,300	930	13	26	4	......	......	2	6	319	......	12,238	......
1919.																	
January	319	263	6	2	590	439	4	16	......	......	......	5	2	124	......	5,543	......
February	124	41	......	......	165	117	1	18	......	......	......	28	1	0	......	1,888	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
May	1	8	....	9
June	1	8	....	9
July	1	8	....	9
August	1	8	....	9
September	1	8	....	9
October	1	11	....	12
November	1	12	....	13
December	1	12	....	13
1919.				
January	....	12	....	12

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
December	29	1	....	30	144	....	144	....
1918.								
January	73	3	....	76	247	....	247	51
February	102	8	....	110	380	....	380	66
March	98	5	....	103	490	....	490	66
April	97	5	....	102	467	....	467	66
May	91	5	....	96	581	....	581	73
June	112	5	....	117	618	....	618	72
July	47	3	1	51	364	18	382	71
August	52	3	1	56	338	11	349	69
September	52	3	1	56	338	11	349	86
October	50	5	1	56	405	11	416	98
November	51	6	1	58	393	21	414	121
December	38	7	1	46	366	22	388	104
1919.								
January	37	5	1	43	332	19	351	63
February	24	2	1	27	41	6	47	13

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital)

BASE HOSPITAL, CAMP KEARNY, CALIF.[a]

The base hospital, Camp Kearny, Calif., was located in San Diego County, 11½ miles in a straight line from, and almost due north of, the business center of the city of San Diego, by rail 18 miles, and by stage 14.1 miles.

The terrain is an old sea bottom elevated into a plateau intersected by deep arroyos. The whole country is covered with a sparse growth of chaparral, the most abundant plant being greasewood. The hospital site was on a triangular portion of this plateau, surrounded by one small and two large arroyos, and connected with the rest of the camp by a comparatively narrow isthmus. This added greatly to the picturesqueness of the situation, but seriously limited the free expansion of the hospital.

The soil is a very thin layer of reddish clay which is very soft when wet and which quickly works into fine dust after becoming dry. Little trouble was experienced, however, from mud or dust, inasmuch as the principal buildings of the hospital were connected by good walks of plank or sawdust, and there was no traffic on the side of the prevailing winds. Immediately underneath the thin surface soil is a formation of unknown depth, composed of coarse gravel and small bowlders of the hardest variety of crystalline rocks (quartz, porphyry, and basalt), cemented together by the clay. In the dry season this becomes very hard, virtually forming a conglomerate. It is nearly impervious at all seasons, rendering excavating for pipes, etc., extremely tedious and difficult.

There are really but two seasons in this region, the rainy and the dry. Records kept at San Diego since 1851 show an average seasonal rainfall of 9.69 inches, nearly all of which occurs in the months of December, January, February, and March. The rainy season corresponds to a mild spring of the Atlantic States. Two or three days of showers are succeeded by several days of perfect weather. The shrubs composing the chaparral put out fresh leaves, and all open spaces are covered with grass and wild flowers. In the dry season the country is brown and dusty. The sun blazes uninterruptedly in a cloudless sky, tempered only by an occasional fog from the sea at night and in the early morning. The temperature is very equable. The San Diego records show an average for the coldest month (January) of 54° F., and for the warmest (August) of 70° F. The camp and hospital, being situated 425 feet above the sea level, and 5¾ miles from sea, had a greater daily range of temperature (about 10° more) than for corresponding days in San Diego. An unexpected feature of the temperature record was that the daily mean temperature was uniformly about 10° higher than in San Diego. The nights are cool throughout the year, and ordinarily the wind blows just enough to make the day pleasant. Occasionally a hot north wind, heavily laden with dust, blows with considerable violence for about 12 hours at a time. This is the only really unpleasant feature of the climate.

The roads in and about the hospital were dirt, made of a red argillaceous sandstone found in the neighborhood. This packs very hard, softens very little in wet weather, and if judiciously sprinkled makes a very satisfactory road bed.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Kearny, Calif.," by Maj. J. M. Moss, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The country surrounding Camp Kearny was of no value for agricultural purposes, and was very sparsely inhabited. There were, consequently, no roads in the immediate vicinity.

For the above reasons there were no sanitary problems to be considered, except those arising from the proximity of the hospital to Camp Kearny. The distance between the most easterly ward building and the most westerly camp stable was only 800 feet.

There were no perennial streams in the neighborhood. There were rushing, muddy torrents in the bottom of each arroyo after a heavy rain, but these soon dried up, leaving only a series of small pools, the larger of which lasted nearly until the end of the dry season.

Mosquitoes were present for only two or three weeks, and these did not come to the hospital. Flies were remarkably few.

The first officers and men of the personnel arrived at Camp Kearny on August 15, 1917. The camp at that time consisted of a few tents for the officers and men of headquarters, about 1,000 troops, and two completed warehouses. The hospital was organized on September 1, 1917, and received its first patient on the same day. Prior to this time the sick soldiers of the camp had been cared for in a camp infirmary. The construction company maintained a small emergency hospital for its own employees.

About the middle of October the camp was completed and troops began to arrive in large numbers. Coincidentally there was a rapid increase in the number of patients in the hospital, and commissioned and enlisted personnel worked all day and far into the night in the attempt to compensate by their industry for the paucity of their numbers.

During all this time the hospital was in tents, a few 14 by 14 hospital tents obtained from the quartermaster, others borrowed from the field hospital organizations at the camp. There was an endless struggle to set up tents and procure blankets rapidly enough to keep pace with the influx of patients. Physical conditions were far from comfortable; an occasional windstorm would so cover everything with dust that the patients' faces, pillows, and blankets would be of a uniform color; immediately after sunset the temperature would fall many degrees, and toward the latter part of the period of tent occupancy, it became so cold that everyone whose duties did not prevent went to bed an hour after supper in order to keep warm. At the same time a great chorus of coughing would arise from the tents devoted to the patients with respiratory diseases, which would continue, without intermission, throughout the night, ceasing only with sunrise the next morning.

The buildings of the hospital, which should have been ready for occupancy coincidentally with the rest of the camp, were hardly begun when they should have been completed. Finally, on November 26, the buildings were sufficiently near completion to warrant moving the first patients. The distance from the tents to the buildings was nearly a mile, and the transfer of the patients, material, and personnel was complete in about two weeks, and was so managed that there was no interruption in the care of the sick. There were 843 patients under canvas at the time the moving was commenced and over 1,100 were being cared for by the time the last patient was brought to the new hospital. As this was a 500-bed hospital, the patients in excess of this number were put on porches, in buildings designated as shop, laundry, and guardhouse, and tents were still necessary. The arrangements for taking care of contagious diseases were particularly inadequate; the three wards designated for the contagious diseases had a normal inside capacity of 84, and on December 15, 1917, there were 570 patients suffering from contagious diseases. Cots were placed on the porches so close together that the passage between them was difficult. Owing to the shortage of blankets some of the patients had to sleep under empty bed sacks.

New buildings were subsequently authorized and completed, and in May, 1918, it would have been easy to care for the greatest number of patients ever in the hospital at one time.

The original main ward buildings were one-story structures arranged in two rows of eight each, on the east and west sides of a central court. The north side of the court was occupied by the receiving ward, the administration building, and the ward for sick officers. A row of buildings extended along the south side, long enough to considerably overlap both sides of the rest of the group. This row was composed of the psychiatric ward, contagious wards, chapel, mortuary, guardhouse, garage, laundry, shop and quartermaster, warehouse, and the enlisted men's barracks and mess halls. The center of the court was occupied originally by the patients' mess hall, the post exchange, and a laboratory building. The head hospital, for the eye, ear, nose, and throat, and dental sections, was subsequently added to this group. Quarters for officers and nurses were situated to the west of the main quadrangle. Nine two-story barracks buildings were later erected outside the quadrangle, at the southeast and southwest corners. All the buildings of the original quadrangle, except the row on the south, were connected by roofed corridors.

An unfortunate feature of the layout of the buildings was that the whole group faced the wrong way. The only access to the hospital was over the isthmus, which was at the southeast corner of the grounds. As the administration buildings and the receiving ward were on the north side of the group, visitors and patients had to pass the psychiatric and contagious wards and then go either half way around or through the hospital before reaching the place of admission.

In the original group there was a building, with four bedrooms, for the commanding officer, and one with 22 rooms for the other officers. When the hospital was opened 46 officers were on duty, 26 of whom were quartered in the building for the purpose, the remaining 20 being placed in a dormitory established in a large room in the receiving building. In February, 1918, the officers' quarters were enlarged to comprise 57 rooms, but these were inadequate, and a two-story barracks building was used to quarter the excess number.

Similar conditions applied with reference to the nurses. Their quarters contained 35 rooms, and two dormitories with 10 beds each. These quarters were soon filled, two nurses occupying a room 9 by 11 feet, with all their belongings (no storage room was provided), and many were sleeping on porches. The erection of a similar building did not overcome the crowded conditions which prevailed in the nurses' quarters. Those who slept two in a room had less than

500 cubic feet of air space. A wing was added to one of the nurses' quarters to serve as a ward for sick nurses. This was a much needed addition, as no space was provided for the purpose originally, and no means of taking care of them except to move a healthy nurse out of her room so that a sick one might be alone.

No toilet facilities were provided for nurses except in their own quarters. The nurse who worked in the ward most remote from the quarters had to walk nearly three-quarters of a mile to a toilet and back to her work.

There were two mess halls for the enlisted men, situated in the middle of the row of barracks. The kitchen was in the rear end of one, and an inclosed corridor connected this with the other. The arrangement was perfectly satisfactory.

The officers messed with the sick commissioned personnel in the officers' ward, paying the rates prescribed by the Army Regulations.

Ambulant patients had a large separate mess hall in the center of the court. This was rather poorly planned; distances over which the food had to be carried were unnecessarily long; there was insufficient storage room; and too little space for the kitchen police, especially in view of the fact that all the work had to be done by hand, there being a total absence of all labor-saving devices. Another bad feature was the distance to water-closets. There were two near at hand in the post exchange, but these were only adequate for the building in which they were located.

There was no hospital storehouse proper. The medical supply depot for the camp was situated a short distance outside the grounds, its officers being quartered at the hospital. The enlisted men slept in the buildings. There was no toilet in the building, and for six months there was no running water, the men having to walk a distance of 400 feet for these facilities.

The hospital was equipped throughout with modern sanitary plumbing fixtures; eight of the wards had water-closets and baths in separate small buildings, each connected to two wards. The enlisted men's barracks had similarly situated conveniences. All other buildings had water-closets and baths inside. There were no latrines.

There was no hospital laundry. A building designated as such formed part of the original group, but was never fitted with machinery, and was used as a contagious-disease ward. The soiled linen of the hospital was sent by the medical supply officer to San Diego for laundering.

The small building designated on the plans as a chapel was turned over to the Young Men's Christian Association when the hospital was first opened. Services were held there every Sunday, by both Catholics and Protestants. A Catholic chaplain was attached to the hospital on April 26, 1918, after which mass was celebrated every morning in a small tent erected by the side of the chapel.

The equipment of the hospital was at all times adequate for the conditions as they existed at the given period.

The function of the hospital was to treat all cases arising at Camp Kearny, and medical, surgical, and venereal cases from overseas.

Both Camp Kearny and the base hospital were supplied from the water system of the city of San Diego. The water was gathered in a large reservoir behind a dam in the mountains, 65 miles from the city. It was conducted thence 45 miles by natural channels and flumes to the Otay Dam, where it was subjected to sand filtration. From this point it was carried 20 miles in pipes to the city of San Diego, where it was chlorinated at the city reservoir. The distribution through the hospital grounds was effected by means of wooden mains wound with wire. These were very unsatisfactory, requiring constant work to repair leaks.

The sewerage system of the hospital was entirely separate from that of the camp. It emptied into a septic tank, about half a mile down the arroyo which formed the northern boundary of the hospital grounds. The septic tank for the camp sewer was situated alongside that for the hospital. The discharge from the tanks flowed down the stream bed at the bottom of the arroyo. Signs in English and Spanish were placed every few hundred feet, calling attention to the poisonous nature of the water.

All the kitchen waste and garbage were removed daily by a contractor, who paid for the privilege. Tin cans and paper were turned over to the hospital quartermaster for transportation to the camp reclamation officer.

There were no heating plants. The hospital, in common with the camp, was supplied with gas from San Diego. Each building was furnished with gas "floor furnaces," discharging the products of combustion into the open air. These proved to be both inefficient and dangerous, and in several instances were discovered to be on the point of setting fire to buildings. The dangerous ones were turned off, and the hospital came to be heated largely by small portable gas stoves connected by armored tubing to outlets in the floors or wainscoting. Owing to the mildness of the climate and the ample means of ventilation, these proved to be entirely satisfactory.

The hospital was well supplied with electric lights, in common with the camp. There was an insufficient number of switches, so that in many places the lamps were removed in order to avoid the unnecessary use of light during the night, the result being a rather dim illumination during the early hours of the evening.

No attempt was made to open a post exchange during the days of the tent hospital. A building was provided for the purpose, situated in a central location, and the exchange was opened as soon as the move to the new hospital was fairly under way. The value of the stock in May, 1918, was about $7,000. The exchange building housed a barber shop and a library and reading room. The interior arrangement of the building was very bad. There was no access to the library except through the exchange, and the portion devoted to the exchange was so badly planned that fully a third of it was wasted.

As mentioned above, the chapel was used by the Young Men's Christian Association for a time. Later a building was erected by the association, near the enlisted men's barracks. Good work was done by the association representatives. The mail from the hospital amounted to from 800 to 1,200 pieces a day.

There was no Red Cross building, but plans for an elaborate structure were submitted to the Surgeon General for his approval. The erection was hampered by the location of the hospital on ground where there was no room for expansion.

In addition to a small library in the Young Men's Christian Association building, a fine collection of books, fiction, science, and works of reference, contributed by the women of Coronado, was housed in the post exchange.

A baseball field was in daily use. Two tennis courts, courts for basket ball, volley ball, and handball were provided, and a few pieces of gymnasium apparatus were set up.

Evening entertainments, musical and dramatic, were frequently given by patriotic citizens and by the men themselves.

The base hospital was made a camp hospital on March 27, 1919.

Statistical data, United States Army Base Hospital, Camp Kearny, San Diego, Calif., from September 1, 1917, to March 31, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	......	4	55	......	59	29	.....	4	.....	.....	.....	3	.....	21	2	327	17
October	23	21	439	......	483	200	2	14	.....	.....	.....	18	1	245	3	3,351	115
November	248	17	1,772	......	2,037	979	10	139	.....	.....	.....	42	11	855	1	19,796	42
December	856	44	2,258	......	3,158	1,850	36	68	.....	.....	.....	34	6	1,164	......	33,822	12
1918.																	
January	1,164	61	1,747	......	2,972	1,709	20	213	.....	.....	.....	21	5	1,004	......	34,195	......
February	1,004	36	1,461	0	2,501	1,251	9	261	.....	.....	.....	.....	6	974	......	34,120	......
March	974	129	1,710	......	2,813	1,500	6	260	.....	.....	.....	.....	14	1,033	......	30,464	......
April	1,033	89	1,647	......	2,769	1,701	3	208	.....	.....	.....	1	5	851	......	26,481	......
May	851	102	994	......	1,947	1,425	10	16	.....	.....	.....	2	7	487	......	20,858	......
June	487	85	784	......	1,356	771	5	14	.....	.....	.....	1	13	552	......	13,619	......
July	552	51	1,425	......	2,028	1,205	5	13	.....	.....	1	80	3	721	......	23,103	......
August	721	43	455	......	1,219	714	2	13	.....	.....	1	14	9	466	......	16,747	......
September	466	46	1,005	......	1,517	857	2	21	.....	.....	2	2	15	618	......	15,829	......
October	618	297	3,170	......	4,085	2,615	38	41	.....	.....	.....	7	13	1,371	......	30,450	......
November	1,371	146	2,144	......	3,661	2,706	76	26	.....	.....	.....	1	40	812	......	28,611	......
December	812	62	978	......	1,852	1,497	41	13	.....	.....	.....	5	29	267	......	14,894	......
1919.																	
January	267	75	1,056	......	1,398	1,022	10	12	.....	.....	1	3	20	330	......	10,688	......
February	330	52	497	1	880	583	2	4	.....	.....	1	4	19	267	......	7,637	......
March	267	42	829	......	1,138	537	5	16	.....	.....	.....	2	17	561	......	8,332	......

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	68	2	1	71	131	....	131	....
October	45	2	1	48	133	....	133	....
November	54	2	1	57	203	....	203	21
December	52	2	1	55	197	....	197	66
1918.								
January	65	3	1	69	195	....	195	72
February	66	3	2	71	179	....	179	90
March	64	2	1	67	318	20	338	92
April	72	2	1	75	562	20	582	98
May	68	4	1	73	560	20	580	100
June	62	5	1	68	490	20	510	107
July	73	4	1	78	529	18	547	112
August	70	4	1	75	528	17	545	92
September	67	4	1	72	772	17	789	94
October	67	5	1	73	733	17	750	112
November	60	6	1	67	590	17	607	122
December	43	7	1	51	564	16	580	97
1919.								
January	36	7	1	44	477	15	492	84
February	42	5	8	55	411	17	428	68
March	40	7	7	54	306	16	322	50

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP LEE, PETERSBURG, VA.[a]

Camp Lee was situated in Prince George County, Va., 3 miles to the east of Petersburg. The base hospital, three-fourths of a mile southwest of the camp headquarters, occupied part of an area abounding with historical associations which date from romantic and valorous episodes in the earliest colonial days, and include epoch-making events of both the Revolutionary War and the War of the Rebellion.

The region was flat and heavily wooded; but, where the main portion of the hospital was located, it was denuded of all verdure to facilitate construction. Fortunately, when this denudation was done, the convalescent portion of the hospital was not contemplated, so that when this additional section was erected it was possible to give thought to this essential detail and to disturb the smallest number of trees.

The soil is a mixture of clay, sand, and gravel; and, because of the flat terrain, the level of the ground water is ordinarily high. In the earlier days of the hospital, one had but to indent the surface with one's heel to exhibit the near presence of water. Immediately west of the point at which the hospital was located the ground was especially swampy, and artificial drainage had to be instituted to remove its menacing quality. Because of the prevalent high winds during the summer there was much high-flying dust in the camp.

The winter climate is reputed to be mild, but the winter of 1917–18 proved to be exceptional: the ground was covered with snow practically from early December to the first part of March. The clearing of the area to the east and north of the hospital caused it to be exposed to an unusual degree to the severe winds.

The camp roads, as ultimately constructed, were satisfactory: the main road, from the camp to the hospital, was of concrete; and the remainder of the roads, though of dirt, were well crowned and oiled, and withstood remarkably well the heavy traffic to which they were subjected. The roads leading from camp, especially those to the rear of the hospital, however, were impassable at times following heavy rains.

Prior to the organization of the base hospital, an emergency hospital was established by the contractors for the care of civilian employees. This hospital was supervised by a civilian physician. Later, after some of the camp buildings had been erected, a temporary hospital, for the use of the military personnel, was instituted in one of the barracks.

On September 1, 1917, the base hospital was organized; and, in so doing, the temporary hospital was taken over for the purpose. By September 23, 1917, the first three wards of the group of buildings especially provided for the base hospital were occupied; and by November 1, 1917, all the wards had been completed. At the latter date the barracks for the enlisted men had not been erected, water connections in the hospital had not been made, and open latrines were still being used. The heating system was entirely inadequate and coal-burning stoves were used in the wards and offices.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Lee, Va.," by Maj. P. C. Riley, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The hospital, as constructed, comprised two groups of buildings: the main group, erected on the standard plan; and the group of ward barracks. This group of ward barracks, or the convalescent group, was situated westwardly from the main portion of the hospital, being separated therefrom by tracks of the Norfolk & Western Railroad. Connecting the groups were covered walks and concrete and macadam roads. Between the main and convalescent sections of the hospital there were located the heating plant, the medical supply depot, and the laundry building.

The quarters for the officers were in a building in which there were 56 small rooms and a large well-appointed dining hall with two very handsome open fireplaces. The quarters were totally inadequate for the personnel, and it was necessary to domicile the excess of officers either in the empty barracks of the convalescent area or in barracks situated elsewhere in the camp. At one time quite a number of officers had to be accommodated in tents situated to the rear and to one side of the permanent quarters.

The Army Nurse Corps quarters were three two-story stucco buildings.

The various messes of the hospital were divided into five units: the general mess, an officers' mess, a sick officers' mess, the nurses' mess, and the detachment mess, all under the supervision of one mess officer. The general mess was used by the ambulant patients, bed patients being served in their wards through the medium of the food conveyor. The general mess accommodated approximately 1,000 patients, and was reconstructed to facilitate the more rapid distribution of food.

The equipment used throughout the various kitchens was of the very highest modern type.

There were four storehouses connected with the base hospital: the camp medical supply depot, the base hospital property storehouse, the base hospital quartermaster warehouse, and the commissary storehouse.

The chapel was a small building neatly arranged for services held there by the chaplains of the various denominations. During the period of its construction it was occupied by the plumbers as sleeping quarters. From about the 5th day of December, 1917, until about the end of February, 1918, it was used as a hall in which psychological examinations were conducted. During the influenza epidemic, when the mortuary was filled to overflowing, use was made of this building to store bodies that had been made ready for shipment.

In the original plans a building was provided for the laundry, but there was no equipment for it, and this work was done by the Camp Lee laundry, a Government-owned plant. The laundry was used, however, as a central station for the collection and delivery of hospital linen between the various wards and the camp laundry. A section of it was used as a sterilizing room for the treatment of all soiled hospital linen; and another portion of it was set apart for the gauze reclamation equipment. The removal of soiled linen from, and the supplying of clean linen to, the wards was handled by a central delivery and collection system. The soiled linen from the wards was collected each day and sent to the sterilizer for treatment; it was then checked and an equal amount of clean linen was returned to the ward the next day.

The water supply for the hospital was the same as that of Camp Lee, the source of which was the Appomattox River. It was pumped from a plant about 1 mile above Petersburg to a filtration plant in Petersburg, where it was filtered and chlorinated and then pumped to a 1,000,000-gallon reservoir at Camp Lee. A pumping station supplied the camp from this reservoir, maintaining a pressure of from 65 to 70 pounds. The base hospital obtained its supply through two 10-inch wooden mains. The distribution system consisted of 10,500 feet of wooden mains varying in size from 6 to 10 inches. The valves on the main camp distribution system were so placed that water could be supplied the base hospital in emergencies when there was not enough to supply the entire camp.

The sewage from the hospital was disposed of by a system consisting of 20,000 feet of sewer mains and was a part of the camp sewerage system. The sewage emptied into a septic tank near the eastern edge of the camp, the effluent being discharged into Baileys Creek, a small stream skirting the eastern edge of the camp. Baileys Creek in turn emptied into the James River at a place south of City Point, Va.

In wards of the single-unit plan the toilets, urinals, and baths were located in a room which formed a part of the ward itself, due care being taken in its construction to prevent the penetration of odors into the ward proper. In those wards of double-unit construction these utilities were located in a small building facing the corridors connecting the two wards of the unit. The toilets, urinals, and baths were all of the latest sanitary construction. The latrines of the originally constructed barracks for the enlisted men were located in two buildings especially constructed for the purpose, conveniently near. Those in the quarters of the officers and nurses were of the same standard type and were located within the buildings proper.

The collection and disposal of garbage was thoroughly systematized. The main purpose of this system was conservation and reclamation of all articles which could be further utilized. Containers were placed in the various messes, and permanent signs were provided for the classification of trash and garbage over these receptacles, as follows: Newspapers and magazines only; clean tin cans; waste paper and cardboard; clean unbroken glass containers; unserviceable bread; fruit pits; animal food; miscellaneous; and not fit for animal food. The burlap bag containing newspapers and magazines and the one containing waste paper and cardboard were collected once each week, or oftener if necessary; all other articles were collected daily and delivered to the garbage stand at the general mess. Cooked meats, raw fats, cooked grease, and bones, unsuitable for further use as food, were used for the making of soap under the supervision of the mess officer. Garbage was collected each day from the garbage stand at the general mess by the camp garbage wagon, and delivered to the camp stand for disposal.

The heating of the hospital was accomplished by a general heating system, using 12 Kewanee boilers of the horizontal fire tube type, each boiler being 18 feet long and 6 feet in diameter. The main steam lines ran underground from the boiler house to points of distribution and were inclosed in wooden conduits the tops of which formed sidewalks in many parts of the area. The steam was delivered at high pressure, and was reduced at the entrance of each building to about 5 pounds pressure. All water of condensation was delivered to five

Farmsworth traps, located in various parts of the area, and from these traps the water was pumped back to the boiler. There were 150,057 square feet of radiation surface installed in the hospital. The original heating plant was equipped with eight boilers. The new quarters for officers and nurses and the large convalescent area containing 12 two-story buildings required the additional four boilers to be installed. The underground conduits referred to contained two other lines, the first being the high-pressure steam line on which the pressure was maintained regardless of the heating system, and was used for steam cooking, sterilizing, and the laboratory work. The other line was the hot-water line, the water being heated in a large heater, the temperature being regulated by a thermostatic valve. This water was kept in circulation in insulated pipes throughout the hospital by an electrically driven circular pump. The operation of this plant was under the base hospital utilities department, 1 officer and 100 men being assigned from the camp utilities to care for the area.

The base hospital electrical equipment was fed by 3-phase 2,200-volt circuit; the current furnished was 60-cycle 110 secondary voltage. There were 65 electric heating elements and stoves used in the hospital.

The post exchange was the first exchange in camp and was started in August, 1917, at the temporary hospital. It occupied an ordinary wooden shack of one room. No shares were sold, but credit was obtained from several merchants in the city of Petersburg. Most of the business came from the workmen in camp and amounted to about $200 a day. The exchange moved, along with the rest of the hospital, in September, to its permanent location. The building was only half completed when it was occupied, and goods had to be sold through one of the windows, customers approaching by a narrow plank. For this reason, as well as the fact that there was no road to the exchange, sales at this time were low. The building was completed, however, and in addition to the canteen a barber shop was started. In December, 1917, a restaurant was installed, but it was not a success. In the month of February the tailor shop was started. From this date up to June, 1918, no changes were made, but in this month the exchange at Zero Street was taken over and operated as a branch of the base hospital post exchange. The barber shop was moved, five more chairs were purchased, and modern equipment was installed. This exchange was known as one of the best exchanges in camp, had an excellent business record, and paid out over $10,000 in dividends and for amusements. The value of the exchange on January 1, 1918, was $2,397.27, and one year later, after deducting all dividends, was $23,479.40.

The Young Men's Christian Association constructed a building that proved to be very successful.

There were two Red Cross buildings in the hospital area, one for the convalescents and the other for the nurses. The first, a large, well-equipped auditorium with a stage, was located in the group of convalescent barracks. Frequent concerts by the hospital band and orchestra, and weekly dances, were given in this hall. During the day it was used as a reading and recreation room by the patients, being splendidly equipped for this purpose. The Red Cross building in the nurses' area was of a smaller type and was used exclusively for recreation and dancing.

The recreation work was handled entirely by an amusement officer appointed by the commanding officer, and the Red Cross was not called upon to do much of this work. The Young Men's Christian Association rendered efficient aid in arranging recreation exercises. The hospital had its own band of 25 pieces, besides an orchestra. The band gave daily concerts for the benefit of the patients, and about once a week gave a concert in the Red Cross auditorium for the benefit of officers, their wives, and visitors. These concerts were usually run in conjunction with other recreational exercises and ended with a dance, the orchestra furnishing the music. A very great part of the profits of the post exchange was devoted to the amusement fund.

Statistical data, United States Army Base Hospital, Camp Lee, Petersburg, Va., from August, 1917, to July 31, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
August	......	48	......	......	48	43	......	......	......	......	......	......	......	5	......	65	......
September	5	223	167	0	395	235	1	......	......	......	......	......	157	2	......	1,610	......
October	2	7	......	12	21	6	......	......	......	......	......	......	10	5	......	112	......
November	5	14	......	9	28	9	......	......	......	......	......	......	10	9	......	272	......
December	9	37	......	5	51	25	......	......	......	......	......	......	3	23	......	447	......
1918.																	
January	23	81	......	6	110	68	1	......	......	......	......	1	7	24	9	867	294
February	33	59	5	5	102	66	......	4	......	......		......	5	22	5	771	227
March	27	70	189	7	293	120	4	6	1	1	......	3	7	147	4	3,015	145
April	151	1,967	44	5	2,167	650	16	9	1	......	......	......	6	1,482	3	27,849	218
May	1,485	1,873	181	14	3,553	1,163	6	......	......	......	......	1	17	2,357	9	29,474	73
June	2,366	1,849	73	5	4,293	1,935	6	2	......	......	......	152	24	2,171	3	55,517	......
July	2,174	2,509	2	12	4,697	1,655	9	28	37	......	......	94	11	2,857	6	164	64
August	2,863	2,034	......	13	4,910	2,515	9	2	2	......	1	180	81	2,113	7	61,136	274
September	2,120	3,672	112	22	5,926	2,018	155	3	......	......	2	924	47	2,770	7	62,980	132
October	2,777	2,813	1,173	9	6,772	1,416	527	4	......	......	......	3,478	32	1,315	......	67,715	686
November	1,315	1,262	60	18	2,655	1,013	18	8	......	......	......	533	38	1,044	1	30,528	39
December	1,045	1,832	403	1	3,281	1,583	10	8	......	......	......	186	92	1,402	......	36,367	62
1919.																	
January	1,402	1,661	795	44	3,902	2,238	13	3	......	......	......	157	72	1,406	13	45,859	281
February	1,419	1,117	391	16	2,943	1,556	5	3	......	......	......	152	72	1,141	14	44,284	163
March	1,156	706	443	56	2,361	1,162	6	4	......	......	......	159	99	931	......	32,707	3
April	931	524	359	94	1,908	919	5	6	......	......	......	131	82	763	2	26,285	76
May	765	402	547	43	1,757	893	6	8	......	......	......	123	69	658	......	23,720	10
June	658	436	5	53	1,152	502	6	1	......	......	......	223	48	372	......	4,190	29
July	372	398	5	6	781	457	1	......	......	......	......	27	10	286	......	9,763	2

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
October	12	8	....	20	September	....	21	....	21
November	12	8	....	20	October	....	23	....	23
December	12	8	....	20	November	....	17	....	17
					December	....	13	....	13
1918.									
January	8	9	....	17	1919.				
February	7	8	....	15	February	....	25	....	25
March	8	8	....	16	March	....	33	....	33
April	81	16	....	97	April	1	73	....	74
May	....	20	....	20	May	....	72	....	72
June	....	21	....	21	June	....	61	....	61
July	....	21	....	21	July	....	22	....	22
August	....	24	....	24					

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Lee, Petersburg, Va., from August, 1917, to July 31, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.		
1917.									
September	60	6	....	66	167	....	167	....	2
October	60	4	....	64	199	....	199	23	1
November	63	4	1	68	229	....	229	55	....
December	75	4	1	80	263	....	263	94	....
1918.									
January	72	3	1	76	351	....	351	128	....
February	84	3	1	88	311	....	311	131	....
March	110	3	1	114	421	20	441	132	....
April	121	4	1	126	692	20	712	183	....
May	110	4	1	115	583	20	603	166	1
June	96	4	1	101	692	20	712	172	1
July	78	4	1	83	682	31	713	186	1
August	89	5	1	95	750	29	779	205	1
September	111	5	1	117	1,000	31	1,031	218	2
October	140	4	1	145	985	30	1,015	298	1
November	134	4	1	139	979	30	1,009	321	1
December	96	9	1	106	959	30	989	232	1
1919.									
January	94	9	3	106	974	30	1,004	165	1
February	94	7	3	104	900	29	929	189	....
March	73	11	5	89	624	24	648	183	....
April	57	10	7	74	592	10	602	115	....
May	45	8	7	60	392	10	402	105	....
June	38	4	7	49	249	8	257	78	....
July	25	4	1	30	223	6	229	46	....

CHAPTER XXXI.

BASE HOSPITALS, CAMPS LEWIS, WASH., LOGAN, HOUSTON, TEX., MacARTHUR, TEX., McCLELLAN, ALA., MEADE, MD., PIKE, ARK., AND FORTS RILEY, KANS., AND SAM HOUSTON, TEX.

BASE HOSPITAL, CAMP LEWIS, WASH.[a]

Camp Lewis was located on the American Lake prairie, Pierce County, Wash., 17 miles southwest of the city of Tacoma. It was roughly V-shaped in design; and on the right of the closed portion of the V, occupying about 50 acres, was the hospital.

North and east of the camp site is low rolling country, sloping toward Puget Sound. South and east are heavily timbered hills which gradually merge into the rough mountains of the Cascade Range, while to the south and west is a vast prairie, dotted with scattered clumps of conical fir trees. Forty miles due east is snowcapped Mount Ranier, which rises abruptly to the majestic height of 14,000 feet.

The camp was situated in a small level valley about 2 miles in width and 3 miles long, flanked on three sides by low wooded hills. The outlet of the valley faces the west. Its floor slopes gradually toward American Lake, a fresh-water body about 1 mile northwest of the camp. The slope and the undulation of the terrain provided excellent drainage for surface waters and sewage. Sequalichew Creek is a mile west; the Nisqually River, facing toward the sound, is 4 miles south; and Much Creek, which widens out into a number of small lakes, is 5 miles to the east.

Fir trees, with scant intermingling of scrub oak, thickly cover the surrounding hills, serving as a natural barrier against wind.

The base hospital was situated on a slightly higher level than the camp proper, and was half surrounded by low hills topped with fir trees, which offered considerable protection against the weather.

This entire area is a glacial deposit. The soil is a dark loam, heavily impregnated to a great depth with coarse gravel, its porosity insuring the quick absorption of water. Mud is quickly dried and is of loose consistency. The gravelly soil is firm and heavy, not easily converted into high-flying dust.

There are two seasons, the wet and the dry. Rain begins the latter part of September and continues until May, during which time three-fourths of the days are rainy. Fog and heavy mists are prevalent during this period, and there is an occasional light snowfall. The average yearly rainfall is about 43 inches. The winter temperature varies from 30° to 50°. The summer months are warm and pleasant, with a temperature varying between 60° and 80°. Nights are uniformly cool. Summer fogs are infrequent, although occasional high mists sweep across from the sound. Mild breezes are frequent throughout the year, but heavy windstorms are very rare.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Lewis, Wash.," by Lieut. W. C. Smallwood, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The entire camp was traversed by concrete roads with bituminized surface. The main arteries of the hospital were of the same composition; the laterals were of gravel or dirt, fairly well kept, and entirely accessible at all times of the year.

Camp Lewis was established as a military cantonment in July, 1917, the command consisting of a few detachments of the Quartermaster Corps and two or three companies of Engineers. On August 10, the commanding officer of the base hospital, which was yet to be constructed, was assigned, and construction of the hospital buildings, on August 17, was commenced. In the meantime a tent hospital was erected for temporary use. From August 10 to September 10 all ambulant patients from the command were treated at the tent regimental infirmary, and bed patients in the tent wards of Provisional Field Hospital No. 30; minor surgical operations were performed in an operating tent; and major surgical cases were taken by ambulance to the Tacoma General Hospital.

The emergency surgical work for the construction employees (several thousand in number) was handled by a group of contract surgeons from Tacoma. An emergency hospital was maintained by them in one of the regimental infirmary buildings as soon as completed. Bed patients were taken to the Tacoma General Hospital.

On September 10, 1917, the first wards of the base hospital, one for medical and one for surgical cases, were ready for occupancy.

The hospital was constructed on the standard plan, and comprised six rows of frame buildings (natural fir), the rows being about 300 feet apart. Each row consisted of nine units, wards, offices, etc., which were placed 50 feet apart. All the buildings were one-story buildings, except those in the fifth and sixth rows, the last to be erected. These were two-storied. The buildings and rows were connected by roofed corridors.

The ward buildings were composed of the ward proper, and its service department; and each contained a private room for the treatment of the seriously ill patients or for isolation purposes. Each ward was surrounded on three sides by side screened porches, and was provided with 20 windows, placed at 9-foot intervals. Ventilation was supplemented by central ventilating shafts running the entire length of the ward and communicating directly with the exterior.

Isolation wards, three in number, were subdivided into small rooms or wards and placed at a little distance in the rear of the main portion of the hospital.

One row of buildings consisted of the administration offices, the general laboratories, the operating pavilion, the offices of the department heads, and the general kitchen.

The quarters for officers and nurses were conveniently located. The personnel quarters consisted of seven barracks situated between the hospital and the camp.

The officers' quarters consisted of a three-winged building with 51 rooms. In May, 1918, there were 95 officers on duty, 22 of whom lived away from the hospital because of the crowded conditions. Nearly half of the small rooms were occupied by two officers.

There were 2 buildings for the nurses, providing 67 rooms, which, with 200 nurses on duty, were entirely inadequate. The excess over the accommodations were quartered in the officers' ward and in a two-story ward building.

The enlisted personnel were quartered in 7 barracks, for which there were 1 mess building and 3 latrines.

The mess department of the hospital comprised the main kitchen and mess hall, three special kitchens and mess halls, and the various diet kitchens. The main mess hall adjoined the general kitchen and was used for ambulant patients. The equipment for the general mess was at first entirely inadequate, but it was later made complete by the addition of every known labor-saving device for the preparation of food on a large scale. Connected with the mess was a large refrigerating room, the low temperature of which was maintained by an ammonia process. Food for bed patients was prepared at the main diet kitchen and transported to the wards in cabinet roller carts. In the wards were large steam tables, which were used to keep the food warm pending its distribution to the patients. In the spring of 1918 the diet kitchens were placed under the supervision of a competent dietitian.

The medical supply depot of the camp and the hospital storehouse were operated as one institution. This depot consisted of two warehouses, each 60 by 170 feet, giving a combined floor space of 20,000 square feet, and a cubic capacity of 2,700,000 cubic feet. These warehouses were located on a railroad spur, and had a platform for unloading eight cars at one time.

The water supply of the base hospital was identical with that of the camp. The source was a voluminous spring at the head of the Sequalichew Lake, which supplied 3,000,000 gallons of water per day, winter and summer. Purification was unnecessary, the bacteriological content being constantly below 3 per cent. The water was very soft, and admirably adapted for washing purposes. A large storage reservoir was located in the hills north of the hospital.

The sewerage system of the hospital was connected with the mains of the general camp. There was a sufficient fall to insure proper drainage. The sewage was conducted into the Nisqually River, 6 miles from the camp.

Garbage was collected at the wards in galvanized cans, segregation being made at this time. Tin cans were crushed and baled; paper was sorted and baled; foodstuffs were carted away for hogs; pits and seeds were utilized for gas-mask construction. The surplus was disposed of by concession.

Running hot and cold water was always available in umlimited supply. The wards contained latrines in which there were shower bath, tub bath, toilet, urinals, and washstands. All fixtures were of porcelain and nickel.

The hospital heating plant, situated at the rear, was equipped with eight boilers. A low-pressure system was first installed, but this was subsequently changed to a high-pressure system, which, unlike the first, was entirely successful.

The hospital was lighted by electricity, the system being identical with that of the camp. The power was supplied by an outside company, and the system was satisfactory.

In the early months of the hospital the laundry situation was very unsatisfactory. There was a laundry building, but no equipment. The Army post laundry collected the work and hauled it to general laundries in Tacoma, causing great delay. Subsequently a modern steam laundry was installed at the hospital, and collections and deliveries were made daily. A steam sterilizing plant was operated in conjunction with the laundry for the sterilization of blankets and clothing.

The hospital chapel was used for officers' call, staff meetings, and as a reading room, until December, 1917, when it was used exclusively for chapel purposes.

The complete medical equipment on April 1, 1919, including the reserve on hand in storage warehouses, had a rough valuation of $750,000. The medical supply department throughout the war was able to furnish almost every thing that was required in hospital work, although sometimes there was considerable delay in obtaining both drugs and equipment. Service was facilitated by the consolidation of the quartermaster and the medical supply departments.

The post exchange was opened on September 27, 1917, without capital, and with stock valued at $25. The first day the sales amounted to $11. The business and stock developed rapidly, and a tailor shop, a news stand, and pool tables were added. By the end of the first quarter of 1918 the daily sales averaged $300. Dividends were declared each month, and the total profits by the end of April, 1918, were $13,467.89.

Various enterprises for the pleasure and comfort of the patients were inaugurated by Red Cross workers early in 1918, and conducted throughout the year. On February 23, 1919, the Red Cross building was formally opened. It contained five large recreational rooms, luxuriously furnished and handsomely decorated, and several offices and rooms for visitors and workers. Dances, parties, motion pictures, and special entertainments were provided. A class in fine arts was organized.

From the beginning the Young Men's Christian Association maintained workers at the hospital, who aided the staff in every way possible. On February 12, 1919, the Young Men's Christian Association building was completed. It contained recreation rooms, a library, and an auditorium. Lectures, entertainments, and moving pictures were given in the auditorium.

The recreation facilities for the personnel and patients, aside from those provided by the Red Cross and the Young Men's Christian Association, were limited to band concerts twice weekly and an occasional dance or picnic.

Statistical data, United States Army Base Hospital, Camp Lewis, American Lake, Tacoma, Wash., from July, 1917, to July, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
July		16	32	1	49	19								30		218	12
August	30	59	3	15	107	37	3						10	55	2	1,354	38
September	57	727	187	17	988	499	1	8					63	417		5,970	
October	417	1,108	277		1,802	886	5	5					116	790		18,218	
November	790	1,305	366	9	2,470	1,123	11	132					286	918		24,950	
December	918	821	2,420	3	4,162	2,405	13	124				248	26	1,346		34,245	
1918.																	
January	1,346	234	2,022		3,602	1,855	18	78				234	24	1,391	2	41,807	122
February	1,393	246	1,882		3,521	1,207	2	64				463	19	1,748	18	40,608	347
March	1,766	338	2,535		4,639	2,385	16	14				305	25	1,878	16	57,098	373
April	1,894	267	1,612		3,773	2,350	12	4				241	20	1,133	13	41,844	388
May	1,146	261	1,574		2,981	1,347	11	26				367	27	1,188	15	35,286	571
June	1,203	165	1,623		2,991	1,369	24	19				358	28	1,190	3	38,673	372
July	1,193	120	1,284		2,597	1,329	7	31				168	49	1,013		33,763	140
August	1,013	118	1,568		2,699	1,261	3	47				191	31	1,160	6	36,278	181
September	1,166	250	2,293		3,709	1,613	24	24				387	23	1,630	8	42,002	519
October	1,638	682	4,300		6,620	3,453	138	21				476	35	2,429	68	77,928	654
November	2,497	263	2,648		5,408	2,366	34	29				1,104	37	1,787	51	62,168	1,533
December	1,838	303	2,180		4,321	1,852	19	23				1,138	46	1,223	20	51,073	1,672
1919.																	
January	1,243	246	1,937		3,426	1,631	14	14				635	45	1,073	14	40,796	570
February	1,087	184	1,026		2,297	1,248	4	15				127	26	866	11	28,504	313
March	877	165	796		1,838	996	2	12				65	31	723	9	24,230	231
April	732	134	649		1,515	837	6	11				19	40	599	3	20,147	93
May	602	145	736		1,483	825	2	8				42	48	558		18,518	
June	558	133	296		987	491	2	42				41	36	375		13,783	
July	375	68	246		689	285	2	62				94	34	212		6,707	

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.		
1917.									
August	11			11	16		16		
September	29			29	116		116		
October	37	2	2	41	203		203	11	
November	39	1		40	360		360	65	
December	43	1		44	383		383	82	
1918.									
January	48			48	387		387	88	5
February	46	2	1	49	378		378	107	5
March	49	2	1	52	375		375	141	1
April	49	1	1	51	496	19	515	172	3
May	54	1	1	56	606	20	626	187	7
June	54	1	1	56	603	19	622	187	9
July	49	1	2	52	552	18	570	198	10
August	50	1	2	53	600	15	615	174	7
September	44	4	2	50	896	15	911	193	7
October	52	4	3	59	909	16	925	358	6
November	50	4	3	57	931	20	951	388	5
December	58	4	4	66	895	20	915	328	5
1919.									
January	58	6	3	67	876	20	896	289	5
February	46	6	8	60	816	15	831	261	4
March	52	8	12	72	780	15	795	222	
April	57	7	5	69	646	16	662	83	
May	21	5	5	31	348	15	363	71	
June	23	4	7	34	335	15	350	61	
July	15	3	4	22	141	15	156	40	

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP LOGAN, HOUSTON, TEX.[a]

The base hospital of Camp Logan was located in Harris County, Tex., 5 miles southwest from the center of the city of Houston, on a level wooded plateau bordering Buffalo Bayou. The situation was ideal with regard to accessibility to the camp and to the city of Houston. The soil of the region is clay, which forms considerable high-flying dust in dry weather, and much sticky, easily carried mud after rains.

The winters are very mild and pleasant; the summers warm. The hospital was not exposed to much wind, being fairly well protected by the trees left on the site.

The roads in the vicinity were constructed of a gravel base with asphalt filler, and were generally in good condition.

Directly to the south of the site of the hospital runs the Buffalo Bayou, 1,000 feet from the nearest building. This stream afforded a good outlet for all the drainage from the hospital neighborhood, thus favoring a satisfactory sanitary status.

The hospital was opened for the reception of patients on September 15, 1917, while construction was still progressing. The buildings as originally called for in the 500-bed hospital plan were completed about November 1, 1917. St. Joseph's Infirmary in Houston was used as an emergency hospital by the contractors during the construction period.

The construction of the hospital conformed to the standard plan.

Officers were quartered in two one-story wooden buildings separated from the hospital. The nurses, also, had two large homelike structures on the eastern boundary of the hospital grounds connected to the hospital with corridors.

The original mess and kitchen equipment consisted of a No. 2 field range. This was set up in a hospital tent back of ward C, and the food for all patients was prepared in this improvised kitchen. As the patients increased it was necessary to obtain from the camp quartermaster two No. 1 field ranges with Alamo attachments. These, with the No. 2 range, were then set up under a tent fly back of the unfinished kitchen. All the cooking was done on these three stoves until November 1, when, the construction of the kitchen having been finished, four No. 5 ranges were placed in the main kitchen and one in the diet kitchen. However, there was no running water authorized, so the quartermaster put in one faucet. Subsequently, a hot-water tank was purchased and the ranges were fitted with water backs. This arrangement supplied all the hot water for washing dishes, etc. The mess equipment and cooking utensils were increased from time to time, by issue from the Quartermaster and Medical Departments, and in December, 1917, a large warming table was purchased by the quartermaster and placed in the main mess hall. This was heated by steam for which a boiler was obtained, and greatly relieved the congestion on the overworked stoves. In February, 1918, a steam dishwashing machine and steam-jacketed aluminum kettles were purchased and connected with the boiler. About the same time a potato parer and meat grinder, motor driven, were installed. This furnished a fairly full equipment. About the 1st of June the regularly authorized equipment came. It was necessary to tear up the wooden floor in the kitchen and put in a cement floor. The equipment finally consisted of meat roasters, vegetable boilers, stock boilers, cereal boilers, a hot water tank, large copper water and coffee urns, all of which were operated with high-pressure steam; electrically driven food choppers and vegetable parers, and a meat slicer; and large double ranges and a metal table for the preparation of foods, etc. This equipment remodeled the kitchen so as to make it possible to serve at least 6,000 meals a day without difficulty. The entire kitchen was beaver boarded and painted.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Logan, Texas," by Lieut. Col. J. M. Willis, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The hospital had three storehouses 29 by 150. These buildings were used exclusively for hospital purposes by the Quartermaster and Medical Departments, and were satisfactory in character. They were entirely inadequate by half, however, for the needs of a hospital of this size.

The hospital laundry, more properly a laundry exchange, was located in the building originally designed exclusively for laundry purposes. But, there being no equipment for its operation, all work, with the exception of the soiled laundry from the venereal and contagious wards, was sent directly to one of the laundries in Houston. The hospitals possessed commodious steam sterilizers, in which all soiled laundry from the infectious wards was first submitted to sterilization. This sterilized laundry was dried and then sent along with the soiled linen from the other wards, including the regimental infirmaries, the dental department, and the several kitchens, to Houston.

The chapel was built in the autumn of 1917, at the southern end of the hospital grounds near the morgue. It was used, for religious purposes, by the Roman Catholics on Sundays. During the winter months it was used by the officers for medical lectures. Protestant services were held in the bandstand or in the exchange buildings, more centrally located.

Lavatories and baths were situated inside of wards and buildings, and were connected with the hospital sewers.

The water for the hospital was identical for the camp supply and was obtained from the city of Houston; its source was artesian wells, but it was chlorinated.

At first the sewerage system of the hospital was the only one provided at the camp. In the fall of 1918, however, sewerage was installed in Camp Logan, and of this the hospital system was made a part.

At first garbage was disposed of by contract, being moved twice daily. Later all garbage was separated into seven classes and taken care of by the reclamation department of the camp.

All buildings, except the operating pavilion, were heated with stoves. This proved unsatisfactory; the hospital was situated in a southern latitude; and though not subjected to very low temperatures as were those situated in the north, the buildings were of such character that the far-famed "northers," which visited this place with great regularity and frequency made the buildings far from comfortable; it was with great difficulty that patients were prevented from huddling about the stoves in groups—a practice manifestly insanitary; only soft coal was used in the stoves, and even with the exercise of the greatest care the amount of dirt and ash from each stove center was considerable, and the air was filled with flying soot that soiled everything it touched, making it necessary to have bed linen more frequently laundered than otherwise would have been the case.

Contrasted with all these objectionable features, was the preeminently satisfactory arrangement in the operating pavilion, which was heated by steam from a special plant.

Electric power for the lighting of the hospital was furnished by the Houston Lighting & Power Co. The service was quite satisfactory.

In the early days of the hospital, equipment, notably in the line of surgical instruments and operative facilities, was meager. Later, well-equipped general operating rooms and operating rooms for the eye, ear, nose, and throat buildings provided ample facilities, and the necessary apparatus and instruments for surgical procedures was added from time to time until a very satisfactory stage was attained.

The hospital exchange was inaugurated toward the end of August, 1917. At the beginning, it was housed in one end of a company mess building and, like all exchanges, was liberally patronized. When the exchange building of the hospital was completed it was found that the added space allowed a greater variety of goods to be placed on sale and that the income steadily increased. In May, 1918, the space for the exchange was doubled and a new system of display instituted. A barber shop was operated in connection with the exchange after November, 1917. In June, 1918, the old fixtures of the barber shop were replaced with a new five-chair, sanitary equipment, which rivaled the best shop in town. Another source of income was the exchange tailor shop where there was always sufficient work to keep two tailors busy.

The American Red Cross built and turned over for the use of the nurses on duty at this hospital a recreation building. It was well furnished and contained a spacious auditorium, a balcony to be used as a sewing room, and at one end a separate room for a library. In another room equipment consisting of laundry tubs and ironing boards, was installed. In the open space next to the building the American Red Cross put in a shell tennis court for the use of the nurses.

The Young Men's Christian Association erected and furnished a building, which was located across the street from the officers' quarters, to afford a place of recreation for the officers on duty at the hospital. Writing material and other essentials were provided free, and chess, dominoes, and other games were at the disposal of the officers. A piano and phonograph added to the enjoyment and once a week an excellent concert was furnished in the open air. The secretary in charge visited the officers' ward each day, supplying the invalids' wants in regard to writing paper and envelopes. The building was also at the disposal of officers for lectures and meetings, for which purpose it was used quite frequently.

The hospital was closed March 12, 1919, and transferred to the Public Health Service.

Statistical data, United States Army Base Hospital, Camp Logan, Houston, Tex., from September, 1917, to March 12, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	.....	.....	228	11	239	113	.....	.....	.....	.....	.....	.....	.....	125	1	1,543	4
October	126	12	800	89	1,027	526	.....	51	.....	.....	.....	.....	1	449	.....	9,355	.....
November	449	30	1,306	76	1,861	581	.....	228	2	.....	.....	347	3	700	.....	16,947	.....
December	700	1,768	125	27	2,620	723	7	751	.....	.....	.....	258	7	874	.....	25,121	.....
1918.																	
January	874	2,331	128	9	3,342	1,221	7	667	3	.....	.....	483	4	957	.....	27,807	43
February	957	1,821	137	17	2,932	894	17	563	.....	.....	.....	573	10	873	2	22,580	31
March	875	1,720	109	2	2,706	1,027	5	354	1	.....	.....	455	5	855	4	25,706	15
April	859	2,800	102	9	3,770	1,785	10	242	.....	.....	.....	820	7	906	.....	26,491	.....
May	910	1,032	65	8	2,015	1,262	2	113	.....	.....	.....	74	5	555	4	16,294	12
June	559	700	9	4	1,272	596	3	225	.....	.....	.....	41	85	316	6	12,147	2
July	322	566	25	32	945	473	1	69	1	.....	.....	52	12	337	.....	8,422	.....
August	337	801	16	26	1,180	710	.....	27	.....	.....	.....	55	11	377	.....	11,509	.....
September	377	2,631	70	48	3,126	1,426	31	20	.....	.....	.....	425	16	1,208	.....	19,145	.....
October	1,208	1,643	119	54	3,024	1,890	87	43	.....	.....	.....	170	22	812	.....	32,938	.....
November	812	1,196	32	49	2,089	1,346	6	78	.....	.....	.....	9	27	623	.....	22,810	.....
December	623	837	47	18	1,525	943	3	56	1	.....	.....	22	8	488	4	17,212	46
1919.																	
January	492	732	26	15	1,265	837	12	58	.....	.....	.....	24	9	324	1	14,453	34
February	325	233	32	18	608	422	3	30	.....	.....	.....	23	13	116	1	6,969	42
March	117	58	.....	2	177	90	1	6	.....	.....	.....	77	3	.....	.....	786	.....

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					**1918.**				
September	2	.....	.....	2	April	1	.....	.....	1
October	3	.....	.....	3	May	0	.....	.....	0
November	3	.....	.....	3	June	0	.....	.....	0
December	3	.....	.....	3	July	0	.....	.....	0
					August	0	.....	.....	0
1918.					September	0	.....	.....	0
January	3	.....	.....	3	October	0	.....	.....	0
February	3	.....	.....	3	November	0	.....	.....	0
March	1	.....	.....	1	December	0	.....	.....	0

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	21	2	1	24	142	.....	142	.....
October	25	2	1	28	159	.....	159	.....
November	32	2	1	35	247	.....	247	.....
December	44	2	1	47	248	.....	248	.....
1918.								
January	48	2	1	51	248	.....	248	46
February	50	2	1	53	293	.....	293	67
March	47	2	1	50	293	.....	293	77
April	54	2	1	57	514	18	532	102
May	53	2	1	56	515	18	533	102
June	52	2	1	55	476	19	495	105
July	58	2	1	61	425	19	444	102
August	56	3	1	60	413	18	431	80
September	49	3	1	53	665	14	679	78
October	44	2	1	47	571	14	585	170
November	50	3	1	54	577	17	594	140
December	46	1	1	48	473	17	490	125
1919.								
January	45	1	1	47	446	16	462	117
February	40	1	1	42	513	15	528	87
March	40	1	.....	41	.....	.....	.....	.....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP MacARTHUR, WACO, TEX.[a]

Camp MacArthur was situated in McLennan County, State of Texas, about one-half mile northwest from the outskirts of the city of Waco and about 3 miles from the civic center of the town.

The hospital on that side of the camp which was nearest town was situated on rolling country which had been used for farming purposes. It was, therefore, practically devoid of trees and all forms of vegetation. The top soil in the vicinity of this hospital was of a heavy loam, in depth varying from 1 to 4 feet; under this topsoil a continuous white limerock stratum was encountered. During rainy weather the soil, typical Texas "gumbo," becomes very sticky. In dry weather, however, it pulverizes easily and quickly and is productive of a great deal of dust.

The climate of this part of Texas might be considered fairly equable. Spring commences about the 1st of April and continues until about the 1st of June. During spring the weather is most pleasant; not too warm in the daytime and always cool at night. From the 1st of June until the 1st of November the days are usually very warm, but the nights are quite agreeable. Due to the fact that during these months there is an almost continuous southern breeze from the Gulf, the climate is wholly bearable, even in the heat of summer, and the nights are usually sufficiently cool to permit very comfortable sleeping. Beginning about the 1st of November and running through to April 1 the winter season presents an occasional "norther," which may cause the temperature to drop below the freezing point. These changes are all sudden, it being merely a question of minutes when the temperature may drop from 20° to 70°, producing actual suffering to persons not accustomed to them. During the winter of 1917–18 "northers" seemed to arrive at more frequent intervals and also to reach colder degrees. Because of the lack of preparation for freezing weather, the water pipes at this hospital and all through Camp MacArthur froze on numerous occasions. Fortunately, cold spells did not last for much more than 48 hours at a time. In the intervals between the "northers" the temperature usually rose, often reaching the height of 70°. The hospital being situated upon a hill, which is the highest point in McLennan County, exposed it to all the wind that blew. This exposure made the hospital most ideal for a spring, summer, and fall, but during the winter all the buildings were fully exposed to the "northers."

Running along the entire east side of the hospital reservation was a well-constructed tarvia-coated country road. This connected the hospital directly with the asphalt road which led to the city. The hospital roads proper were built of rock and gravel, were properly drained, and were very satisfactory.

The hospital was fortunately situated, with practically no civil habitation within a radius of a half or three-fourths of a mile in any one direction. There were no streams near the hospital and the sanitary status of the neighborhood was practically perfect.

The commanding officer of the hospital arrived on August 6, 1917. At that time the actual construction of the hospital had not commenced, nor had the location of the hospital site been definitely passed upon. The site was chosen and the actual construction commenced August 10, 1917. The first buildings erected were two storehouses; then, in the order given, wards 13 and 14, the patients' kitchen, mess hall, operating pavilion, administration building, and officers' quarters. Troops began to arrive at Camp MacArthur between the 25th of August and the 1st of September. By the time the troops arrived two of the storehouses had been finished. One of them was used to receive stores which were beginning to arrive in enormous quantities; the other was fitted with screen doors and windows, electric lights, and running water. In one end of the altered storehouse a partition was thrown across it making a small room which was used as an operating room. The rest of the building was furnished with Gold Medal cots, ticks filled with straw, sheets, blankets, and pillows, and was used as a temporary hospital for the care of the sick incoming troops.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp MacArthur, Texas," by Lieut. Col. S. W. French, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

No emergency hospital was used for construction employees. It so happened that none of them were seriously injured and all were taken care of in the temporary hospital.

On September 12, 1917, the base hospital was officially opened, wards 13 and 14, the patients' kitchen and mess hall, the operating pavilion, the administration building, and the officers' quarters having been completed. At this time also numerous other wards and buildings were rapidly nearing completion, so that by the 1st of October, 1917, practically all of the original construction was completed.

The plan and distribution of the buildings followed the standard plans for National Guard base hospitals.

The officers and nurses' quarters and the barracks for enlisted men were adequate and comfortable.

The messing arrangements at the hospital were similar in practically all respects to those which obtained at other base hospitals originally constructed with the idea of a very limited use at National Guard camps. These were the main mess for the patients, and separate messes for the duty personnel. The equipment of the main mess, at first very meager in quality and quantity, ultimately became more complete. Innovations were practiced in improving the general appearance of the mess hall. The beaver boarding was calcimined, and the stripping was stained a dark color. The contrasting decorative shades gave to the room a pleasing appearance that was more or less homelike and undoubtedly was conducive to instilling in the men a feeling of comfort and a desire to maintain a high standard of cleanly habits. To facilitate the ease with which the hall could be cleaned, and to make it possible to readily remove the dining tables from the hall and compactly store them temporarily elsewhere, the table tops were suspended from the ceiling by means of chains instead of having the usual supports beneath.

The storehouses of this hospital were five in number, all of the same type, about 120 feet long by 40 feet wide, equipped on one side with a receiving platform. At the time of construction no allowance was made for shelving in any of these storehouses. It was necessary, therefore, to install shelving made out of scrap lumber and packing boxes.

Hospital equipment began to arrive about August 20, 1917. This was part of the initial equipment for a 500-bed hospital, which was issued without requisition. The equipment arrived a great deal faster than it was anticipated and ultimately became complete to an exceptional degree. The five storehouses were well stored with all kinds of equipment, not only for a base hospital, but also for field sanitary units, and veterinary supplies for the remount depot at this camp. The only permanent hospital equipment that was lacking was part of the heavy kitchen equipment such as dish washers, steam cookers, etc., and the machinery for the laundry.

The hospital chapel was completed on October 1, 1917, and was used almost daily as a meeting place during week days for the officers' school, the noncommissioned officers' school, and for various lectures. On Sunday it was used two or three times for church services by various denominations.

The water supply of the hospital was the same as that furnished for the entire camp. It came from the city waterworks, which was approximately 75 per cent deep artesian well water, with 25 per cent filtered and sedimented water from the Brazos River. The artesian wells furnishing this supply of water averaged 600 to 2,200 feet in depth. The water from this series of six wells was practically inexhaustible and unlimited; but, due to the fact that its temperature averaged 109° F., it was found necessary to make the addition of the 25 per cent river water to cool it, that it might be used for most purposes. The filtration plant was part of the system of the city of Waco, which was one of the most complete, efficient, and up-to-date municipal water-purifying plants in the United States. Daily bacteriological examinations of the water were made in the laboratory of the base hospital, from water taken from the tap. In this way a check was made upon the findings reported by the city waterworks.

Very fortunately, but, not without numerous telegrams on the subject, sewers and plumbing were installed in the hospital during original construction. The main sewer outlet from the hospital connected with the city main at a point about 1 mile from the hospital reservation. The latrine arrangements in the double wards were situated in a separate building between these double wards and connecting each side with the inclosed corridor. The toilet room was divided longitudinally by a partition, one side being used to inclose the urinals and toilet and the other side for the hand basins, showers, and bathtubs. In the single wards there were flush bowls, one urinal, one slop sink, and two showers, installed in one of the end rooms of each single ward. The toilet rooms were concreted and drained in the center. The walls around the showers were protected with galvanized sheet iron. The rest of the hospital was adequately supplied with toilet, washing, and shower facilities.

Kitchen waste was disposed of in three ways: All edible refuse was placed in distinctive cans and hauled away daily by a civilian under contract; clean papers, tin cans, bottles, burlap, and excelsior were conserved and collected daily by the conservation department of the camp quartermaster; dish water was run directly into the sewers, and inedible waste, such as coffee grounds, orange and lemon peelings, etc., was incinerated in a large incinerator located directly behind the kitchen.

The heating of all hospital buildings during the winter of 1917–18 was effected by the use of coal stoves. The larger buildings, such as the wards, contained three coal stoves in the ward proper and one or two smaller stoves in the smaller rooms at the end of each ward. The heating was altogether satisfactory. However, with approximately 240 separate coal fires for heating purposes in the hospital, the liability to fire, especially during the heavy winds which accompanied the "northers," was great. The hauling of coal to the wards and various buildings and the hauling of ashes away from these created an immense amount of work.

The hospital was adequately lighted throughout by electricity, the system being a part of that for the camp. The lighting was entirely successful and satisfactory.

The laundry building was erected at the time the hospital was constructed. No machinery was received, consequently no laundry work was done at the hospital.

The pharmaceutical service at this hospital was exceptionally good; in the detachment were about six registered pharmacists. These men all did excellent work and brought the dispensary to a high state of efficiency. General supplies were received in good time with comparatively little difficulty, and special drugs were purchased locally as emergency required.

The hospital post exchange was started shortly after the organization of the hospital. It proved a source of good income to the hospital fund and provided amusement and convenience to patients and persons on duty at the hospital. Besides selling the usual articles found in post exchanges, there were six pool tables, an electric player piano, and a well-appointed barber shop with six chairs, run in connection with the post exchange. The exchange business reached such a size that it was necessary to double the capacity of the building early in 1918. This was done out of post exchange funds and with no expense to the Government.

The Young Men's Christian Association building was constructed early in 1918. Church services were held on Sunday and Wednesday nights, and on other nights it was used for the recreation of patients. The Young Men's Christian Association supplied the patients with paper and envelopes and writing material.

The Red Cross Convalescent building, the largest, most complete, and most extensive building in Camp MacArthur, was dedicated on June 20, 1918. It filled a long felt need because of its capacity and facilities. One feature in particular that made it most useful was the fact that it contained 12 bedrooms which could be used by the friends and relatives of the sick. The American Red Cross did most excellent work in furnishing the various parts of the hospital with articles which were not included on the supply table. They were most eager to assist at any and all times.

In the spring of 1918 a band of 28 pieces was organized among the members of the detachment, Medical Department. These men had all had band experience previous to entering the service, and made a most excellent organization. Concerts were given, three afternoons a week, in a band stand which had been erected and donated to the hospital by the Rotary Club of Waco. These band concerts were a source of a great deal of pleasure to the patients in the hospital. A moving-picture machine was received by the American

Red Cross and pictures were shown each night in the open air adjacent to the new Red Cross building. The hospital band furnished music with the pictures. The Medical Department detachment was given the use of barracks No. 7 as a recreation hall. This building was all lined with beaver board, out of funds from the post exchange, and members of the detachment decorated the walls very artistically, built a stage and provided artistic scenery for occasional entertainments. In this room there were also two pool tables, and two victrolas for the use of the detachment. A baseball team, track team, and basket ball team were formed in the detachment and showed most excellent results in all athletic meets in which they competed. One source of great pleasure was the large swimming pool which was constructed on the initiation of the commanding officer of the hospital. Here, officers, nurses, or enlisted men could obtain surcease from the heat of the prolonged summer.

This was one of the hospitals which were dispensed with early. It was closed in March, 1919.

Statistical data, United States Army Base Hospital, Camp MacArthur, Waco, Tex., from September, 1917, to March 6, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.				
			By transfer.	Otherwise.										Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
September	......	122	364	......	486	147	......	......	......	......	......	......	......	339	......	3,246	......
October	339	79	1,255	......	1,673	771	6	28	......	......	......	2	......	866	......	20,759	......
November	866	47	1,575	......	2,488	1,056	4	158	......	......	......	......	6	1,264	......	33,067	......
December	1,264	1,716	499	5	3,484	2,017	8	70	......	......	......	1	3	1,385	......	38,616	......
1918.																	
January	1,385	2,509	16	1	3,911	2,158	45	179	1	......	......	3	7	1,518	......	48,109	......
February	1,518	1,229	7	......	2,754	1,313	37	100	......	......	......	2	36	1,266	......	36,961	......
March	1,266	1,189	69	9	2,533	1,187	20	204	......	......	......	7	35	1,080	......	35,696	......
April	1,080	1,051	42	23	2,196	1,138	9	80	......	......	......	8	10	951	......	31,923	......
May	951	1,607	28	19	2,605	1,569	3	3	......	......	......	15	25	990	......	30,666	......
June	990	111	16	1,456	2,573	1,297	14	......	......	......	......	67	29	1,166	......	13,608	......
July	1,166	103	7	1,421	2,697	1,404	5	10	......	......	......	113	40	1,125	......	50,752	......
August	1,125	121	17	1,448	2,711	1,261	4	12	......	......	......	36	48	1,350	......	40,992	......
September	1,350	57	1	1,372	2,780	1,072	5	13	......	......	......	157	......	1,533	......	38,981	......
October	1,533	363	38	3,215	5,149	3,481	195	29	......	......	......	71	53	1,320	......	64,643	......
November	1,320	86	1	610	2,017	1,159	12	21	......	......	......	4	26	795	......	20,193	......
December	795	58	14	434	1,301	879	9	21	......	......	......	1	37	354	......	23,223	......
1919.																	
January	354	46	113	358	871	469	13	12	......	......	......	16	31	330	......	1,881	......
February	330	23	......	263	616	354	3	9	......	......	......	115	38	97	......	6,893	......
March	97	1	......	2	100	25	......	1	......	......	......	73	1	0	......	170	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1917.				
September	4	....	....	4
October	7	....	....	7
November	5	....	2	7
December	5	0	0	5
1918.				
January	3	1	....	4
February	2	2	....	4
March	4	7	....	11
April	8	12	....	20
May	11	6	1	18
June	14	19	1	34
July	0	16	0	16
August	0	14	0	14
September	2	20	4	29
October	2	24	5	31
November	3	22	4	29
December	3	23	3	29
1919.				
January	3	15	2	20
February	2	5	1	8
March	0	....	....	....

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[a] Compiled from the monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp MacArthur, Waco, Tex., from September, 1917, to March 6, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C, etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	50	2	1	53	139	....	139	22
October	61	3	1	65	242	....	242	45
November	52	1	1	54	344	....	344	45
December	49	1	1	51	350	....	350	58
1918.								
January	72	1	1	74	374	....	374	76
February	74	1	1	76	499	16	515	124
March	78	1	1	80	527	20	547	125
April	79	1	1	81	662	20	682	131
May	73	1	1	75	670	20	690	135
June	68	1	1	70	675	18	693	133
July	63	4	1	68	604	18	622	136
August	46	3	1	50	626	18	644	126
September	50	5	1	56	894	19	913	119
October	59	6	1	66	878	16	894	135
November	58	6	1	65	872	16	888	133
December	45	5	1	51	599	13	612	121
1919.								
January	33	4	1	38	541	9	550	80
February	21	3	1	25	209	7	216	37
March	6	....	1	7	22	6	28	....

BASE HOSPITAL, CAMP McCLELLAN, ALA.[a]

Camp McClellan, with its base hospital, was located in the hills of Calhoun County, Ala., 6 miles northeast of Anniston. Hemmed on all sides by the thinly wooded foothills of the Blue Ridge Mountains, the site selected was well adapted in many ways for the purpose for which it was chosen, at the same time possessing the disadvantages common to regions where hills and trees predominate. The soil is a sandy reddish-yellow clay which is tenacious when wet; when dry it is easily pulverized into dust, which is wafted above the highest tree tops by even a gentle breeze.

The climate, while given to sudden changes, is not severe, In summer the days are hot, but the nights are always cool. During the winter, which is short, rainfall is abundant, and there is an occasional snowstorm which is never of long duration. The hospital was well protected from high winds by the surrounding hills and trees.

The roads on the Army reservation were of gravel, and were kept in good repair. Those of the vicinity, like the roads of any hilly country, were mostly dirt, and were rough. The main highway leading to Anniston was brick, made for the purpose of heavy hauling. It served this purpose only fairly well because of the nature of the soil, which was not suited for roads of this character.

A small mountain brook zigzagged its way across the camp, dividing it into two unequal portions, and serving as an outlet for the drainage system, which was mostly natural. On a large and fairly level hilltop just above this brook the base hospital was most advantageously situated. It was not too far distant from any organization in camp, and yet it was not on the main road, noise and dust being thus eliminated.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp McClellan, Ala.," by Capt. C. A. Hoberecht, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The first officers arrived for duty August 17, 1917. With the continued arrival of commissioned and enlisted personnel the organization was gradually effected and was practically complete by the end of September, 1917. The Box Springs Farm House was used as headquarters prior to the completion of the hospital buildings. At this time, ward cases were received and cared for by the Virginia National Guard field hospital. Emergency major cases were taken for operation to one of the hospitals in Anniston. During the construction of the camp an emergency hospital was maintained by the construction company for the workmen. This was a one-story wooden building, 20 by 120 feet, and contained 20 beds. The personnel consisted of one civilian doctor and one female nurse.

The first ward of the hospital to be finished and opened for Army use was occupied by both medical and surgical cases. Other wards were opened in rapid succession, and the completion and occupation of the receiving station and the administration building on October 28, 1917, marked the formal opening of the hospital.

The function of the base hospital was to treat all cases arising in Camp McClellan, and medical, surgical, and venereal diseases from overseas.

The wards were separate buildings arrayed on either side of two parallel covered board walks, and so arranged that each ward faced an open space instead of another ward on the opposite side. The distance from the side of one ward to the side of the next was 35 feet. The interior arrangement of each was the same. The forward third was occupied by the office of the ward surgeon, kitchen, toilet and bath, linen closet, and a single small room for the isolation of cases seriously ill or under special observation. In the ward proper the beds were placed along each side, with heads to the wall and a window between each two. On the outside a broad screened porch extended along the entire length and across the rear end of the ward.

The receiving station and ward were near the road. Two exceptions to the general plan were the convalescent wards, locally called double-deckers, and the contagious, or isolation, wards. The former were two-story frame buildings arranged along a covered board walk and on the opposite side of the road from the main part of the hospital. In these buildings the entrance, office, stairway, kitchen, baths, and linen rooms were in the middle. At either end of each floor was a large wardroom, each of which accommodated 30 patients. The isolation wards were single-story buildings, very similar to the two-story wards, excepting that the end rooms were smaller on account of each building containing 10 small rooms for the isolation of seriously ill cases or those in which there might be some doubt as to the diagnosis.

The officers were quartered in two buildings, known as the old and new quarters. The former was first used as such on November 15, 1917, and three and one-half months later, March 5, 1918, the new quarters were initiated into the service of housing the ever growing commissioned personnel. These buildings were divided into rooms, each large enough to accommodate two with a little crowding, and such was the necessity when officers from hospital units 126 and 127 were present and waiting for orders to proceed overseas. At that time the overflow was taken care of in tents near the hospital, and later on in one of the two-story wards. Before the officers' quarters were built the officers lived in tents, and later on in one of the nurses' barracks and in some of the newly finished wards.

The nurses were quartered in five buildings very similar in their general plan to those occupied by the officers. Two of these five buildings were occupied by the student nurses, who were kept entirely separate from the graduate nurses, and for whom a separate mess was maintained. The nurses' quarters were first used as such on November 19, 1917. During the influenza epidemic extra nurses were quartered in one of the two-story wards.

At the time of the organization of the hospital the enlisted men lived in tents, later in some of the wards, and finally in the barracks, 6 in number, each accommodating 48 men. These buildings were similar in construction to the wards, the forward end of each being divided into small rooms for the noncommissioned officers. The toilets and baths were in separate buildings conveniently located.

Food for the patients was prepared and served in the patients' mess building, which was centrally located. Here there were accommodations for feeding 1,000 men. The enlisted men's mess was located midway between barracks No. 1 and No. 6, and was within easy access to all. The nurses' mess was in the main nurses' quarters. The officers' mess was planned to accommodate 75, but during the epidemic of influenza its capacity was taxed to accommodate twice that number. The first officers' mess was maintained in one of the vacant wards, then in one of the buildings later occupied by nurses, and finally in its permanent location.

The laundry work of the hospital was done on contract by one of the local laundries. The building designated as the laundry served as a place for the sorting and counting of the hundreds of pieces of clothing and linen from the 46 wards of the hospital.

Storage room for the supplies of the hospital was amply provided for in four warehouses, which were occupied by the medical supply depot and by the hospital quartermaster department. A storeroom for the provisions was in the patients' mess building.

At the time of organization the equipment of the hospital was somewhat lacking, especially in surgical instruments and supplies; for this reason the first operation by the staff was performed in one of the hospitals in Anniston. At this time the supply of beds and bedding was also limited. From time to time additional equipment was secured and finally in March, 1918, the last of the surgical equipment was moved in. From that date the hospital was fully equipped for any line of work and capable of handling any emergency no matter how large.

The hospital water supply was identical with that of the camp, and was furnished by the city waterworks of Anniston. Each building was piped throughout for both hot and cold water. The supply was from springs, and the water was purified by chlorination.

The sewage was taken care of by means of drains which led to a sewer emptying into a septic tank, and thence drained into the brook already mentioned. There were no outdoor latrines. A more than sufficient number of water-closets was conveniently placed in all the buildings, each ward having two or more.

Formerly all kitchen garbage was immediately burned in incinerators located near the mess hall. Later, bread and other foodstuff were collected in fly-proof cans and used for hog feed. Stable manure was hauled to a farm more than 2 miles from the hospital.

Each ward contained at least 4 lavatories, 1 shower, and 1 tub. In the isolation wards each of the small rooms already described had a lavatory and a water-closet. All of these were connected with the main sewer by iron drains with water-tight joints.

The heating system, though adequate, was very expensive. Coal stoves and furnaces were used in each of the buildings and were looked after by the enlisted personnel. Hot water was supplied by a small coal-heater, housed on the outside of the building.

Electricity, furnished by the Alabama Power Co., of Anniston, lighted the entire hospital and its surrounding grounds.

No building was constructed for devotional purposes. A small structure, situated near the mortuary, was used from time to time for funeral ceremonies. Religious services were held regularly in one of the wards in the patients' mess hall, and later in the Red Cross Convalescent House.

The hospital dispensary was run in conjunction with the receiving station. Here the men reported for sick call and were examined by the receiving officer or the officer of the day. Treatment was prescribed or the case was admitted to the hospital as the occasion might require. The drug store was under the supervision of a sergeant and two assistants, all of whom were graduate pharmacists. The supplies were those prescribed by the War Department for base hospitals. Any drug not carried might be secured through the Red Cross.

The post exchange was started October 1, 1917, in the rear of ward 2, and the stock consisted of a few dozen bottles of pop and two or three boxes of cigars. The stock was increased until its valuation was $12,000. A barber shop and a tailor shop were run there.

There was no Young Men's Christian Association building at the base hospital. The American Red Cross erected two excellent buildings, the first a recreation house for the nurses. A small branch of the American Library Association was housed herein. The floor was prepared for dancing and a good piano and a victrola were supplied. The Red Cross Convalescent House for patients was opened January 5, 1919. Here daily papers, books, and games were furnished to while away the weary hours of recuperation following illness. Good moving pictures were shown every evening. One evening of each week this building was turned over to the officers for a dance and on another to the enlisted men for the same purpose. The Red Cross was one of the most valuable institutions having any relationship to the base hospital and to the camp. Four men and three women were kept constantly employed. Letters were written for the seriously ill and illiterates and various articles for the comfort of the patients were distributed at regular intervals. During the great influenza epidemic blankets, sheets, pillowcases, clothing, and medicines were furnished in great quantities, and had it not been for this worthy organization the suffering of the stricken hundreds would have been far greater.

Various athletic teams composed of base hospital personnel were organized. During the winter of 1917–18 the basket-ball games played in the Red Cross Convalescent House afforded entertainment for all who cared to attend. Convalescent patients were admitted to these contests.

This hospital was closed in June, 1919.

Statistical data, United States Army Base Hospital, Camp McClellan, Anniston, Ala., from August, 1917, to June, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
August	......	16	......	......	16	5	.....	.....	.....	.....	.....	6	.....	......	5	......	15
September	5	14	165	1	185	37	.....	.....	.....	.....	.....	.....	.....	148	......	525	......
October	148	60	1,000	24	1,232	765	2	.....	.....	.....	.....	.....	21	444	......	9,629	......
November	444	1,245	15	4	1,708	977	4	4	2	.....	.....	135	3	583	......	14,485	......
December	583	1,292	23	9	1,907	1,135	9	2	2	.....	.....	77	4	678	......	14,282	......
1918.																	
January	678	1,772	27	8	2,485	1,594	10	1	11	.....	.....	12	9	848	......	......	......
February	848	1,276	7	13	2,144	1,451	4	1	1	.....	2	3	14	668	......	16,625	......
March	668	1,174	10	13	1,865	1,279	4	2	1	.....	.....	1	9	569	......	19,112	......
April	569	1,696	10	18	2,293	1,821	7	.....	1	.....	.....	7	15	442	......	16,398	......
May	442	1,293	2	9	1,746	1,115	4	.....	3	.....	.....	38	11	575	......	19,919	......
June	575	515	3	24	1,117	800	3	8	.....	.....	.....	20	7	279	......	12,885	......
July	279	393	5	32	709	383	.....	34	.....	.....	.....	2	10	280	......	8,678	......
August	280	1,493	......	36	1,809	965	2	29	.....	.....	.....	2	32	779	......	14,943	......
September	779	1,803	......	29	2,611	1,493	9	8	1	.....	.....	5	15	1,080	......	25,571	......
October	1,080	6,267	29	28	7,404	4,293	238	3	5	.....	.....	352	17	2,496	......	50,142	......
November	2,496	1,364	3	17	3,880	2,757	31	.....	3	.....	.....	9	17	1,063	......	41,947	......
December	1,063	1,218	60	39	2,380	1,341	18	.....	5	.....	.....	11	54	951	......	30,771	......
1919.																	
January	951	1,372	87	55	2,465	1,622	69	.....	3	.....	.....	.....	68	703	......	30,386	......
February	703	321	53	59	1,136	617	11	8	2	51	.....	16	47	384	......	13,067	......
March	384	62	4	6	456	190	.....	3	1	96	.....	138	8	20	......	4,306	......
April	20	18	......	12	50	27	.....	.....	.....	.....	.....	3	8	12	......	510	......
May	12	9	......	13	34	11	1	.....	.....	.....	.....	1	15	6	......	258	......
June	6	11	......	22	39	13	.....	.....	.....	.....	3	.....	23	......	......	97	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					**1918.**				
August	....	....	....	....	August	2	5	....	7
September	....	....	....	....	September	3	15	....	18
October	1	....	....	1	October	4	9	....	13
November	....	....	....	....	November	3	9	....	12
December	....	....	....	....	December	3	10	....	13
1918.					**1919.**				
January	428	....	....	428	January	2	9	....	11
February	464	....	....	464	February	2	4	....	6
March	464	3	2	469	March	1	3	....	4
April	464	3	2	469	April	686	35	....	721
May	....	....	....	....	May	656	34	....	690
June	....	....	....	....	June	681	37	....	718
July	2	5	....	7					

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp McClellan, Anniston, Ala., from August, 1917, to June, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q.M.C., etc.).	Total.	Medical Department.	Miscellaneous (Q.M.C., etc.).	Total.	
1917.								
August	....	....	....	12	126	....	126	....
September	....	....	....	23	126	....	126	....
October	....	....	....	36	127	....	127	....
November	....	....	....	46	385	....	385	21
December	....	....	....	50	380	....	380	38
1918.								
January	54	....	....	54	374	19	393	45
February	53	....	....	53	371	19	390	56
March	60	2	2	64	378	20	398	78
April	65	1	2	68	370	20	390	79
May	67	1	2	70	354	18	372	87
June	64	1	2	67	354	40	394	86
July	65	3	1	69	339	50	389	88
August	62	4	1	67	309	48	357	71
September	61	5	1	67	404	44	448	76
October	78	4	1	83	392	43	435	89
November	70	4	2	76	398	45	443	109
December	67	4	2	73	574	45	619	108
1919.								
January	52	4	2	58	714	39	753	103
February	45	3	2	50	406	7	413	84
March	6	1	2	9	74	6	80	....
April	4	....	1	5	18	2	20	....
May	3	....	1	4	14	1	15	....
June	2	....	1	3	10	....	10	....

BASE HOSPITAL, CAMP MEADE, MD.[a]

The site selected for the location of Camp Meade was between the cities of Washington and Baltimore, 27 miles from the former and 18 miles from the latter city. The camp's arteries of communication with both cities were numerous. To the east were the main line of the Pennsylvania Railroad and the electrified Washington, Baltimore & Annapolis Railway; on the west was the Baltimore & Ohio Railroad. Tracks from both the Pennsylvania and the Baltimore & Ohio Railroads led to the camp.

The elongated plan of the camp extended approximately north and south, and at its northern extremity was located the base hospital. Here the terrain is rolling, and when the hospital was erected the surrounding country was fully 50 per cent wooded. The soil is sandy and very absorbent, giving rise to little or no dust in dry weather and to an absence of much mud or stagnant pools after rains.

The roads within the camp were made of concrete, as was the highway between Baltimore and Washington. Elsewhere, however, the roads were typical dirt, country roads, possessing all the disadvantages of such routes of travel in both wet and prolonged dry weather.

The climate is moderate. During the summer the humidity is relatively high, giving rise to some degree of discomfort, and during the winter there are occasional, prolonged cold spells that might be catagoried as severe, though rarely does the thermometer fall much below the freezing point.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Meade, Md.," by Capt. J. H. Truitt, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The sanitary condition in the neighborhood of the hospital was good. There was a small amount of swampy ground, which was readily eliminated by the construction of drainage ditches, and, since the region was malarious, there was thus removed what otherwise would have been a menace.

In August, 1917, steps were taken for the organization of the base hospital at Camp Meade, when the commanding officer was assigned. He established headquarters in the camp proper and superintended the construction of the hospital. Ground was broken for the buildings on September 1, 1917, at which time the commanding officer and 40 officers moved to quarters in the base hospital. The detachment, Medical Department, at this time was composed of 50 enlisted men. The hospital was not ready for occupancy and the adequate care of the sick until November 10, 1917, when the first patients were admitted.

During the period of construction of the hospital those who required medical care were looked after mostly in infirmaries in the camp and in temporary wards arranged in the hospital; the more serious cases were sent to Walter Reed General Hospital, Washington, D. C.

The base hospital was constructed on the standard plan, and when completed comprised a group of more than 105 buildings, occupying a somewhat isolated site about a mile and a half from the headquarters of the camp. Of these, 36 were wards, with a capacity of 34 beds each.

Officers' quarters were located apart from the hospital proper. Fifty-five rooms were for sleeping quarters, accommodating 108 officers. There were seven bathrooms.

The hospital mess furnished food to all patients and to members of the detachment, Medical Department, whose duties required that they use this mess. This mess prepared and served food for about 1,200 men.

The detachment mess prepared food for from 350 to 400 men of the Medical and Quartermaster Departments on duty at the base hospital. It was entirely separated from the hospital mess, except that all supplies were drawn through the latter.

The officers on duty at the hospital had their own mess. A considerable amount of their supplies was drawn through the hospital mess, for which supplies the officers' mess was charged cost price.

The nurses had a separate mess in which were employed civilian cooks, maids and dining-room help. Their supplies were drawn through the hospital mess and the limit of expenditures was kept within the income derived from rations for nurses and civilian employees.

The hospital storehouse consisted of two buildings and an office. Men were constantly on duty to protect the goods, to repair the breakage when possible, and to issue supplies upon proper requisition.

As was the case at the other base hospitals, a laundry building was constructed but no equipment for it was furnished. Up to November, 1918, all laundry was taken by ward orderlies to the laundry collection room, whence it was removed by quartermaster trucks to the camp laundry.

The chapel was in constant use as an office and storeroom. Religious services conducted by chaplains, civilian clergymen, Knights of Columbus, Young Men's Christian Association, and Young Men's Hebrew Association, were held in barracks, in wards, and in the officers' quarters.

The function of the base hospital was to care for cases arising in Camp Meade, and medical, surgical, and venereal cases from overseas.

The hospital water supply was identical with that of the camp. Its source was the watersheds of the Little Patuxent River. The water was filtered with chlorine. Because the watersheds were inhabited, the water was treated by sedimentation, rapid sand filtration, and chlorination. It was stored in large elevated tanks.

The hospital sewerage system was connected with that of the camp.

Garbage from the kitchens and wards was deposited in galvanized iron cans, arranged on a stand in the rear of the kitchen building. The garbage, which was in solid or semisolid state, was separated into the following classes: Bottles and tin cans, bones and grease, vegetable waste, and papers. Paper and paper boxes were hauled away daily by the hospital police wagon; ashes were used for repairing roads in and near the hospital grounds; and the bottles and tin cans, bones and grease, and vegetable waste, were hauled away daily by the Quartermaster Department. The large cans containing the garbage were replaced by clean empty cans daily. The Quartermaster Department was responsible for the cleaning of the cans.

All lavatories and baths were connected to the sewer by means of cast-iron soil pipes. The plumbing was modern and sanitary. Each ward had a tub bath and shower bath in separate compartments.

The hospital was lighted by electricity, furnished by a 2,200-volt, 25-cycle transmission line and stepped down by use of transformers to 110 volts for lighting.

Heat was supplied from a central power plant. There were eight 150-horsepower Kewanee horizontal return tubular boilers installed in four batteries. Each boiler had an independent stack 3 feet in diameter and 80 feet high. Six of the boilers were designed to supply high-pressure steam to the laundry, the main kitchen, the diet kitchens, and the sterilizing apparatus. The camp utilities managed and maintained the steam plant. The total area of radiation, excluding piping, was approximately 156,000 square feet; the total steam condensed in zero weather was approximately 150,000 gallons per 24 hours; and the longest steam-supply line was 4,000 feet in length. The handling of fuel for this plant was a serious problem, owing to the fact that the hospital was located 2 miles from the coal trestle, necessitating the use of trucks to haul fuel to the plant. Due to an inadequate protection of exposed pipes, to the poor quality of coal, and to inexperienced firemen, the plant was neither efficient nor adequate in cold weather.

When the hospital was first opened the equipment was meager, chiefly because the railroads were lacking in proper shipping facilities. This, together with the lack of material, made it difficult to complete the equipment. Finally, however, the entire hospital was brought up to standard equipment, the wards, laboratories, and operating rooms equaling and in many cases surpassing civilian hospitals of years' standing.

A separate building was provided for the post exchange, where various necessities were supplied. The building housed the Young Men's Christian Association, a sanitary barber shop, and a tailoring, cleaning, pressing, and repair service.

The Red Cross building, which was completed during the summer of 1918, was devoted to the usual purposes of comfort and recreation for convalescent patients and visiting relatives and friends. Representatives of the Red Cross were stationed in the hospital to render such assistance as occasions demanded. The cultivation of about 15 acres of ground between two of the wards for convalescents was undertaken by the Red Cross, in cooperation with the commanding officer. Ten acres were devoted to vegetables and 5 acres to flowers and shrubbery. Part of the work of cultivation was done by convalescents.

Band concerts, moving pictures, graphophones, games, books, and periodicals contributed to the recreation of the patients and personnel.

Statistical data, United States Army Base Hospital, Camp Meade, Md., from September, 1917, to June, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September		1			1	1											
October	0	21			21	13						2		6		18	
November	6	269	137		412	139	3						3	267		3,056	
December	267	1,286		9	1,562	844	15						7	696		6,095	
1918.																	
January	696	2,010		11	2,717	1,721	25					1	6	964		23,308	
February	964	1,552			2,516	1,508	20	1						987		26,434	
March	987	1,754		19	2,760	1,881	22	1						856		29,977	
April	856	1,457			2,313	1,437	18	1	1			10	9	837		26,638	
May	637	2,326			2,963	1,704	13	2				10		1,234		32,571	
June	1,234	1,636			2,870	1,712	7	2	1		9	45	5	1,089		35,265	
July	1,089	1,714			2,803	1,575	10	11	1			30	2	1,174		32,028	
August	1,174	2,435			3,609	2,359	11	47				22	69	1,101		36,327	
September	1,101	5,206			6,307	2,782	53	64			1	12	49	3,346		46,446	
October	3,346	3,688			7,034	3,804	754	61			2	1,247	28	1,138		64,820	
November	1,138	1,566	17		2,721	1,709	23	69			7	19	7	887		28,557	
December	887	1,611	428		2,926	1,625	17	49			11	19	39	1,166		28,255	
1919.																	
January	1,166	1,407	965	28	3,566	2,117	19	26			3	36	82	1,283		39,687	
February	1,283	538	525	197	2,543	1,069	5	9			4	66	221	1,169		34,416	
March	1,169	583	487	137	2,376	1,030	6	13				96	82	1,149		34,683	
April	1,149	661	509	72	2,391	1,396	5	16			5	104	60	805		27,826	
May	805	808	524	62	2,199	1,243	5	20			10	112	49	760		26,269	
June	760	732	3	35	1,530	885	3	7				143	26	466		18,648	

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	31	1		32	196		196	
October	31	1		32	196		196	
November	42	1		43	315		315	
December	42	1		43	315		315	27

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[a] Compiled from monthly returns, and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Meade, Md., from September, 1917, to June, 1919, inclusive—Continued.

PERSONNEL ON DUTY—Continued.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
January	65	2	2	69	372	17	389	72
February	71	2	2	75	390	17	407	92
March	86	4	2	92	453	19	472	104
April	96	2	2	100	470	20	490	106
May	99	2	2	103	473	20	493	144
June	93	2	3	98	479	18	497	134
July	79	3	2	84	461	19	480	145
August	75	4	1	80	498	20	518	137
September	71	4	1	76	729	17	746	154
October	89	5	1	95	721	17	738	221
November	85	6	2	93	690	20	710	214
December	70	5	1	76	636	18	654	111
1919.								
January	58	6	1	65	629	16	645	104
February	61	8	5	74	630	14	644	109
March	62	8	8	78	584	13	597	117
April	51	8	9	68	528	11	539	110
May	37	8	10	55	444	7	451	102
June	33	8	9	50	395	6	401	65

BASE HOSPITAL, CAMP PIKE, ARK.[a]

The base hospital at Camp Pike was located at the northern end of the cantonment 8.79 miles from the city of Little Rock, Ark.

The terrain of the region possesses a rolling wooded surface with a sandy loam soil. During the dry season there is much high-flying dust; and after rain, mud of sticky consistency is present. The spring and fall months are delightful in character, the days being clear and brilliant, with moderate breezes. The summer months, especially August and September, are very hot and dry, the thermometer in the sun frequently registering as high as 110° F. Room temperature during this season averages between 80° and 90°. The winter months are for the most part clear and moderately cold, with frequent cold rains and mist and rarely snow. During the spring and early summer months there are electrical storms of great severity.

The roads about the base hospital were of sand and gravel, with an oil binder; and though the hospital site was much exposed to wind, being the highest point in camp, there was little dust because of the improved condition of the roads and drill fields, the latter having been oiled. The wooded surroundings also helped in preventing what dust there was from reaching the hospital buildings.

The sanitary condition of the hospital neighborhood was good. It was improved by a system of drainage which handled the sudden and heavy rainfall adequately.

The base hospital was organized on September 27, 1917. Until that time, from about August 11, 1917, Regimental Infirmary No. 1 was used for base hospital purposes. During the construction period, employees of the contractors who were sick or injured were treated in the same building. A few accident cases were sent to the hospital at Fort Logan H. Roots. The first occupation and opening of the hospital may be dated on September 27, 1917. The plan and the distribution of the hospital buildings followed the standard plan of the War Department.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Pike, Ark.", by Col. L. A. Fuller, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

Officers' quarters originally consisted of three buildings. These proved inadequate and necessitated the assignment of officers to various parts of the hospital for sleeping quarters, at times. Later, by the addition of wings, the officers' quarters were made entirely adequate.

Originally the nurses were assigned two buildings, and for a while it was necessary to furnish them with a ward, for use as a dormitory. Four additional buildings were constructed for nurses' quarters, which, with the original buildings, furnished adequate housing facilities for the nurses. There never was adequate dormitory space for the detachment, Medical Department, in spite of the additional construction of two barracks. The situation was ameliorated by the use of two vacant two-story wards, but as the hospital population grew these wards had to be given up, and tents were utilized.

Upon the opening of the hospital, officers, nurses, and the enlisted personnel were all messed in the general mess. No provisions had been made for a mess hall for officers until the erection of a separate wing on one of the sets of officers' quarters had been effected. Later, a new mess hall was authorized in connection with the additional quarters constructed. The new mess hall had a capacity for seating at least 150. For a while the nurses' mess was operated in the first nurses' quarters to be constructed. The mess hall was very small, and the cafeteria plan of feeding had to be adopted to obviate having three or four sittings. A new mess hall was about to be constructed when the armistice was signed, which placed a halt on all construction work. As with the officers and the nurses, the mess hall for the patients proved inadequate in size. The general kitchen and the diet kitchen were enlarged and remodeled, and the general mess hall was considerably enlarged. The equipment for the general mess was made more modern, and many additions were made to it. Thereafter no difficulty was experienced in its operation. The mess for the officer patients, located in the officers' ward, satisfactorily answered all purposes. The mess for the detachment, Medical Department, was situated in one of the group of barrack buildings provided for the enlisted personnel. At first, entirely inadequate, it was made satisfactory by the enlargement of the kitchen, and the conversion of an adjoining barracks into a mess hall.

There were four storehouses, two with shelves and two without, in the medical supply depot. They were steam heated, electric lighted, and protected by heavy iron-wire mesh over windows. The supply officer had his office in building No. 1. It was necessary to turn over one of these buildings to the quartermaster of the base hospital for his supplies. The remaining three buildings constituted the medical supply depot for Camp Pike, and in them were stored all medical, dental, and veterinary supplies for the camp and for the base hospital. The steam railroad from Little Rock to the base hospital ran by these storehouses and was convenient for loading and unloading supplies.

A laundry building was erected, but it was not equipped. It was used principally for the disinfection of clothing, bedding, etc., by means of a steam sterilizer. The laundry of the hospital was done in Little Rock.

The chapel was opened the latter part of November. It was put in use at once for religious services. It was also used in the evenings for the instruction of officers and noncommissioned officers, and to some extent for the instruction of nurses.

The hospital water supply was the same as that used in tne city of Little Rock, Ark., and in the cantonment. The water was pumped from the Arkansas River and was chlorinated.

A water-carriage system for the removal of the sewage was in use in connection with the general system of the cantonment. The sewage from the whole cantonment was treated in a septic tank. The various latrines, toilets, showers, and sinks were connected with a vitrified clay pipe sewer forming part of the general system. It was necessary at times to use latrines, which were systematically filled in and abandoned as soon as their use could be discontinued.

A small amount of hospital garbage and waste was incinerated. Kitchen garbage was removed by the contractor for the cantonment. Manure from the hospital farm was carted away.

Originally the hospital was heated by a central low-pressure steam plant. During the first winter the heat radiation was very unsatisfactory; the boiler capacity was none too large; scale and other substances choked the disk or seat, causing the return pipes and even the radiators to fill with water of condensation, at times giving rise during the coldest weather to freezing of the contents and a consequent bursting of the equipment. These defects were remedied by the provision of more boiler space and a high-pressure system.

The steam and hot-water pipes were carried above ground on A frames of wood, and all the pipes were insulated.

The hospital was lighted by an electric current furnished by the Little Rock Railway & Electric Co., of Little Rock, a 13,000-volt line running to the substation at the corner of Twelfth and South Boulevard in the cantonment, and thence a 2,300-volt line to the base hospital, a 110 to 220 volt distribution being made to the hospital buildings.

The equipment of the hospital in the early days of its organization was that of a unit of 500 beds complete. This equipment steadily increased in nearly every particular and ultimately became adequate for the official bed capacity of 2,220 beds.

The post exchange was established on September 20, 1917, supplies being obtained on credit. The exchange was at first a branch of the division exchange. Afterwards, for some months, it led an independent existence. About January 15, 1918, it again became a branch of the division exchange. From the start the exchange had a prosperous existence. The surplus accumulated amounted to more than $28,973.75, and monthly sales eventually averaged $14,000.

The Young Men's Christian Association, popularly known as Base Hospital Y, continued in service throughout the existence of the hospital, except during the influenza epidemic, when it was closed and turned over to the base hospital authorities for use as barracks for additional enlisted men. The Y secretaries performed many duties in addition to that of furnishing amusement to the soldier. Among these duties were letter writing, educational work, and the supervision of athletic contests. During the influenza epidemic the staff volunteered their services to the commanding officer of the hospital, and they were of great help in meeting relatives of sick soldiers, acting as guides, performing religious services for the dying or those seriously ill, and in locating chaplains of any faith as requested by the individual soldier.

Three Red Cross buildings were eventually in active use. The first one constructed was situated near the railroad tracks at the base hospital and was called the rest cottage. It was designed to serve the relatives and friends of sick soldiers and functioned admirably in this respect. The second building, known as the "convalescent house," served the convalescent soldiers. It furnished reading material, the base hospital library being situated there, and also housed various entertainments for the soldiers in hospital. The third was a clubhouse for nurses, furnishing a social center for them.

Programs arranged by the Red Cross and the Young Men's Christian Association furnished almost nightly entertainment for all. The enlisted personnel of the base hospital maintained baseball and football teams and a field was supplied for their use. There was a tennis court for officers, which was very popular.

Statistical data, United States Army Base Hospital, Camp Pike, Little Rock, Ark., from September, 1917, to June, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.				
			By transfer.	Otherwise.										Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
September	......	137	50	1	188	34	......	......	......	......	......	77	8	69	......	248	......
October	69	286	1,400	1	1,756	703	8	51	1	......	......	4	20	969	......	13,470	......
November	969	1,536	384	23	2,912	1,603	67	43	1	......	......	1	28	1,169	......	23,920	......
December	1,169	3,778	0	6	4,953	2,472	126	215	8	......	......	393	6	1,733	......	42,286	......
1918.																	
January	1,733	3,972	......	11	5,716	3,492	137	32	4	......	......	326	10	1,715	......	41,696	......
February	1,715	2,820	87	36	4,658	2,370	42	149	6	......	......	327	36	1,728	......	41,899	......
March	1,728	3,547	92	16	5,383	2,889	49	80	12	......	1	317	170	1,865	......	37,970	......
April	1,865	3,019	57	21	4,962	2,494	41	91	10	......	......	463	14	1,849	......	38,716	......
May	1,849	3,231	21	15	5,116	2,713	42	94	11	......	......	275	21	1,960	......	53,107	......
June	1,960	2,907	22	37	4,926	2,501	18	100	6	......	......	374	29	1,898	......	46,560	......
July	1,898	4,887	......	53	6,838	3,468	15	56	6	......	......	540	39	2,714	......	76,522	......
August	2,714	3,832	......	47	6,593	3,677	43	107	......	......	......	404	67	2,295	......	58,594	......
September	2,295	5,415	9	12	7,731	3,730	49	48	......	......	......	453	28	3,423	......	73,666	......
October	3,423	4,395	157	5	7,980	5,667	414	87	......	......	......	82	6	1,724	......	......	......
November	1,724	1,808	3	16	3,551	2,309	26	47	......	......	......	151	1	1,017	......	38,616	......
December	1,017	2,375	89	15	3,496	2,383	27	25	......	......	......	21	13	1,027	......	36,112	......
1919.																	
January	1,027	1,710	244	17	2,998	1,930	28	12	......	......	......	7	15	1,006	......	34,902	......
February	1,006	1,074	264	9	2,353	1,270	8	11	......	......	......	12	17	1,035	......	27,331	......
March	1,035	620	473	16	2,144	1,277	7	9	......	1	......	15	14	821	......	27,762	......
April	821	438	518	15	1,792	992	5	6	3	......	......	28	6	752	......	22,686	......
May	752	447	678	36	1,913	1,039	1	10	......	......	......	19	37	807	......	20,052	......
June	807	356	......	32	1,195	667	1	4	......	......	......	53	44	426	......	15,540	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Pike, Little Rock, Ark., from September, 1917, to June, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
January	0	....	....	0
February	0	....	....	0
March	0	....	....	0
April	0	....	....	....
May	0	....	....	....
June	0	....	....	....
July	13	8	....	21
August	14	8	....	22
September	....	....	....	....
October	....	....	....	....
November	2	31	....	33
December	2	31	....	33
1919.				
January	0	....	....	....
February	5	29	....	34
March	16	49	....	65
April	15	50	....	65
May	19	39	....	58
June	18	36	....	54

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	26	2	1	29	122	....	122	19
October	36	2	1	39	201	....	201	27
November	47	1	1	49	276	....	276	59
December	55	1	1	57	424	....	424	70
1918.								
January	62	1	1	64	445	....	445	91
February	73	1	1	75	423	16	439	133
March	79	1	1	81	420	20	440	131
April	99	1	1	101	534	20	554	157
May	103	1	1	105	552	20	572	156
June	106	1	1	108	565	20	585	195
July	87	3	1	91	733	20	753	212
August	63	7	1	71	766	19	785	208
September	78	6	1	85	1,010	18	1,028	200
October	109	6	1	116	910	18	928	243
November	101	4	1	106	909	18	927	248
December	77	5	3	85	912	18	930	194
1919.								
January	65	6	3	74	813	18	831	176
February	65	5	5	75	677	16	693	167
March	57	6	6	69	533	16	549	154
April	50	6	6	62	481	14	495	103
May	48	4	6	58	406	14	420	84
June	32	4	5	41	241	12	253	55

BASE HOSPITAL, FORT RILEY, KANS.[a]

The base hospital at Fort Riley was the one exception where, among the 16 National Army cantonments, a group of semipermanent buildings was not constructed de novo for the hospital care of the troops of the National Army divisions to be mobilized. The Fort Riley reservation comprised 19,446 acres of Government-owned property upon which there was ample room to establish Camp Funston. The portion of the reservation chosen for the location of the camp was a "flat," bounded on three sides by the Kansas River, 3 miles to the east of the post. The post proper comprised two permanently constructed regimental garrisons, for which there was a large post hospital, and was readily convertible into hospital buildings. Since there was no greater purpose to which the permanent buildings at Fort Riley could be put than to use such of them as would be necessary for hospital purposes, the construction of a semipermanent base hospital as a part of the cantonment was never seriously considered.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Fort Riley, Kans.," by Col. E. R. Schreiner, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General" Office, Washington, D. C.—*Ed.*

The terrain presents a moderately narrow, flat strip along the Kansas River, which roughly forms the reservation's southern boundary. From this strip, on the north, there is a fairly abrupt rise of approximately 100 feet to the highlands beyond, where the characteristics of a rolling prairie are found.

The soil most commonly found in the vicinity is a loam, though along the flatland there is a sufficient admixture of clay to cause the soil to resemble the "gumbo" of Texas. Since the base hospital was located in the permanent garrison, where there were well-constructed roads and walks, while the land elsewhere was grass covered, no disadvantageous qualities were imparted to the soil by either dry or wet weather.

Because Fort Riley is situated far inland, in a treeless section, the climate is one of extremes. The winters include some intensely cold weather, but this is not continuous, and many weeks of the winter months are favorable to outdoor drill. The summers are decidedly warm, some of the days and nights, when the hot winds are blowing from the southwest, being little more than just bearable. However, the permanent nature of the hospital construction alleviated the condition to a considerable extent.

The hospital was organized September 27, 1917. Prior to its organization as such, however, the permanent post hospital building at Fort Riley had been used for base hospital purposes.

This building, subsequently becoming section "K," served as the surgical department of the base hospital. Six two-story gray stone artillery barracks fronting on the artillery parade ground, were adapted to hospital purposes almost coincidentally with the organization of the base hospital. Temporary wooden structures were subsequently added and equipped.

The plan and distribution of the hospital buildings were both convenient and attractive. The general appearance of the group, with the tree-fringed parade as a center, furnished a very pleasing effect. Facing the parade from the west was the headquarters building in which were housed the administrative offices and the laboratory. Forming a semicircle about the upper portion of the parade were the officers' quarters. These were used principally as quarters for bachelor officers, and consequently housed a considerable number. After these was Randolph Hall, consisting of two-room apartments, the officers' mess and clubhouse, which, with the 10 sets of quarters mentioned above, accommodated practically the entire commissioned personnel of the hospital. Around the lower portion of the parade were eight brick buildings utilized principally for the neurological section of the hospital, and for officer patients. North of the parade and beyond the boulevard connecting the hospital with Camp Funston, there was a surgical department (the old post hospital), and to its left a section used for the isolation and treatment of cases of meningitis (formerly the isolation section of the post hospital). To the rear and on the right of section "K" was a group of semipermanent buildings constructed for the eye, ear, nose, and throat cases and orthopedic and genitourinary cases. On the boulevard and east of section "K," a receiving section was constructed. Just east of the parade were six temporary wooden wards which were used for genitourinary patients, and 100 yards farther east and slightly to the north, were 12 semipermanent buildings utilized for the various contagious diseases. Occupying the summit of a hill, 100 yards to the east of the contagious disease section, a group of 10 wards was constructed, utilized as a convalescent section of the hospital. For the group a separate kitchen and mess hall was provided.

For the nurses, two-story buildings were constructed, on the standard War Department plan.

Quarters for the detachment, Medical Department, were two-story frame buildings. For the emergency quartering of a part of the Medical Department personnel, the stone artillery gun sheds south of the parade were remodeled and made habitable.

Because of the peculiar structural characteristics of the base hospital at Fort Riley, a considerable number of separate messes was necessitated. The commissioned personnel of the hospital was fed in several small messes of the capacity of 7 or 8 men each, and in one large mess in the officers' mess hall which accommodated 50 men. These messes were variously conducted by the officers composing the respective groups. They were efficiently managed, and general satisfaction prevailed among the participants. The permanent artillery barracks, which were adapted to either ward or detachment-quarters use, contained also an existent kitchen from which the personnel located in a particular barracks was fed. At first, because of the wide separation of the hospital buildings, and there being no separate kitchen or mess hall for the Medical Department personnel, it was impracticable to feed patients separately. Ultimately, however, a kitchen and dining room for the Medical Department personnel was constructed, and a separation of the messes was then made possible. The rapid expansion of the hospital, while the construction of cantonment wards was in progress, made it necessary to utilize several temporary kitchens which subsequently were replaced by permanent construction. A mess for nurses was established in one of the permanent sets of officers' quarters; during October this fed an average of 10 nurses. During November, because of the increase in the number of nurses, an additional nurses' mess was opened in another set of officers' quarters, and these two operating messes fed an average of 42 during November. The nurses' home, the temporary wooden structure mentioned above, was completed and occupied on January 8, 1918, and subsequently an average of 200 people, including the housemaids and other help, were fed from this kitchen. To keep nurses attending contagious cases isolated from those performing ordinary duty, one of the messes operating in an officers' set of quarters was continued in use. At this mess about 30 nurses were fed subsequent to March 1, 1918.

In the old barracks which were made over into wards, a diet kitchen was provided on the second floor of each section. In the new ward buildings which were constructed a diet kitchen was installed in each. For the supervision of these diet kitchens six dietitians were employed.

Enlisted personnel attached to the kitchens and mess comprised 11 mess sergeants, 35 cooks, and a varying number of men on kitchen police for dining room duty.

From the time the hospital was organized storage was a difficult problem. At the beginning two vacant gun sheds which were available were utilized for storage purposes. However, these were not entirely satisfactory; they were not large enough to contain a sufficient reserve stock for the new sections which were then being constantly opened. One of these gun sheds was eventually taken over for the enlisted personnel of the adjacent medical officers' training camp. An unused stable was then occupied as a storeroom, and the basement of the old post hospital building was used as an issue room.

No laundry building was constructed at this hospital. At the time the base hospital was organized its laundry work was done by the post laundry at Fort Riley. This arrangement was continued until the opening of the camp laundry at Camp Funston, in November, 1917. At this time the work had grown to such proportions that the Fort Riley post laundry could no longer handle it, and the work was transferred to the camp laundry at Camp Funston.

There was no chapel at the hospital, but the post chapel of Fort Riley, within a hundred yards of the hospital parade, though not placed under control of the base hospital, was always available for hospital uses. There, every Sunday, the chaplain attached to the base hospital conducted a religious service for both the commissioned and enlisted personnel.

The water system originally provided for the post of Fort Riley furnished all the water used by the base hospital. It was obtained from wells on the reservation whence it was pumped into a reservoir and distributed, without treatment or filtration. The supply was separate from that at Camp Funston.

The lighting of the hospital was by electricity, the current for which was obtained from the Junction City Light & Power Co. Its operation was successfully maintained.

The sewerage system of the hospital was an augmentation of the original post sewerage system which emptied directly into the Kansas River, untreated.

Garbage was collected daily by persons under contract and hauled away by them. Manure was dumped on a flat near the Kansas River and there burned.

The permanent buildings used by the hospital were separately heated by steam plants originally provided there. All of the buildings constructed of frame, for hospital use, were steam heated by separately located heating plants. Those frame barracks which were taken over by the hospital and used as wards were heated by stoves. All of the various heating measures were operated satisfactorily.

On June 1, 1918, a building was made available and within it a post exchange was established. The basement floor of this building had been used as a subexchange of the Fort Riley post exchange. These rooms were occupied and the stock on hand taken over at an invoice price of approximately $2,000. It was found later that under the provisions of a War Department general order, 1917, the exchange would be administered by the exchange officer at Camp Funston. On June 8, an order was issued by the headquarters at Camp Funston, designating an exchange officer, and subsequent to that time business pertaining to the hospital exchange was conducted through the Camp Funston exchange. Financial transactions increased from $200 on the opening day to an average of about $400 a day for the month of June, 1918.

In the midst of the buildings comprising the convalescent group of the hospital, the American National Red Cross erected a typical Red Cross convalescent house for the use of the patients and their visitors. As in Red Cross houses provided at other camps, the upper floor of this building contained 12 rooms which were utilized as sleeping quarters for the local representatives of the Red Cross and for the accommodation of relatives of critically ill patients who visited the camp.

The Young Men's Christian Association occupied a permanent one-story gray stone building at the lower end of the parade ground. This building was formerly a part of the post at Fort Riley, but had been transferred to the Medical Department for use for hospital purposes. The Young Men's Christian Association was fully organized and performed an efficient service to both patients and enlisted personnel of the Medical Department.

Baseball and football teams were organized among the enlisted personnel of the hospital, and they were decidedly successful in furnishing the necessary diversion for the men.

Statistical data, United States Army Base Hospital, Fort Riley, Kans., from September, 1917, to June, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	124	218	406	12	760	405	.....	21	1	.....	1	2	13	317	.....	5,476	.....
October	317	296	1,107	17	1,737	925	15	16	.....	.....	.....	3	20	758	.....	13,398	.....
November	758	3,315	38	21	4,132	2,468	77	1	.....	.....	.....	.....	12	1,574	.....	40,739	.....
December	1,574	3,358	70	42	5,044	3,188	79	11	.....	.....	.....	.....	43	1,723	.....	54,168	.....
1918.																	
January	1,723	3,518	.....	22	5,263	2,948	52	11	.....	.....	1	1	16	2,234	.....	59,080	.....
February	2,234	3,521	1	23	5,779	3,580	20	6	2	.....	.....	.....	19	2,152	.....	60,738	.....
March	2,152	3,647	.....	24	5,823	3,612	67	9	1	.....	2	.....	24	2,108	.....	68,426	.....
April	2,108	2,397	.....	9	4,514	2,564	44	6	1	.....	.....	.....	15	1,884	.....	60,882	.....
May	1,884	2,593	.....	20	4,497	2,375	33	3	.....	.....	.....	15	26	2,045	.....	56,906	.....
June	2,045	1,782	.....	25	3,852	1,577	14	24	.....	.....	.....	20	25	2,192	.....	61,418	.....
July	2,192	2,502	.....	26	4,720	2,552	21	19	.....	.....	.....	48	29	2,051	.....	43,744	.....
August	2,051	2,304	.....	20	4,375	2,522	8	6	.....	.....	.....	8	15	1,816	.....	77,147	.....
September	1,816	6,385	.....	14	8,215	3,996	25	2	.....	.....	.....	50	23	4,119	.....	75,075	.....
October	4,119	7,511	.....	15	11,645	7,878	958	3	.....	.....	.....	65	39	2,702	.....	130,462	.....
November	2,702	2,839	.....	13	5,554	3,329	44	10	.....	.....	2	67	29	2,073	.....	46,551	.....
December	2,073	3,649	123	11	5,856	4,105	46	7	.....	.....	.....	36	21	1,641	.....	58,771	.....
1919.																	
January	1,641	2,961	590	16	5,208	3,794	36	5	.....	.....	.....	24	19	1,323	7	44,610	72
February	1,323	1,084	586	20	3,013	1,741	12	8	.....	.....	.....	29	20	1,203	.....	33,563	.....
March	1,203	756	653	31	2,643	1,583	12	6	.....	.....	.....	40	40	957	5	21,403	102
April	962	372	838	21	2,193	1,325	7	13	.....	.....	.....	51	22	775	.....	26,069	.....
May	775	487	570	19	1,851	999	5	15	.....	.....	.....	47	18	763	24	26,474	24
June	767	404	728	38	1,937	1,073	5	11	.....	.....	.....	36	32	780	.....	15,833	.....

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
September	1,652	210	148	2,010	March	971	192	162	1,325
October	1,322	198	141	1,661	April	743	98	47	888
November	1,173	189	124	1,486	May	941	142	79	1,162
December	1,156	174	121	1,451	June	1,003	151	92	1,246
					July	1,049	101	76	1,226
1918.					August	978	99	75	1,152
January	984	174	142	1,300					
February	943	168	140	1,251					

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Fort Riley, Kans., from September, 1917, to June, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	55	2	1	58	228	....	228	....
October	68	2	1	71	402	....	402	28
November	98	3	1	102	477	....	477	67
December	108	3	1	112	484	....	484	101
1918.								
January	122	3	1	126	543	....	543	117
February	110	4	1	115	588	17	605	176
March	107	5	1	113	657	20	677	175
April	99	5	1	105	876	20	896	184
May	96	4	1	101	906	20	926	211
June	93	4	1	98	922	20	942	185
July	94	3	1	98	643	20	663	192
August	88	4	1	93	790	20	810	182
September	85	4	3	92	1,024	20	1,044	189
October	89	3	3	95	959	20	979	259
November	85	5	4	94	936	20	956	297
December	94	6	4	104	907	39	946	293
1919.								
January	90	7	4	101	879	15	894	278
February	86	7	6	99	852	14	866	268
March	77	9	8	94	607	12	619	189
April	62	9	9	80	546	5	551	146
May	55	8	7	70	482	1	483	133
June	54	8	7	69	471	....	471	106

BASE HOSPITAL, FORT SAM HOUSTON, TEX.[a]

The base hospital was located within the confines of Fort Sam Houston, San Antonio, Tex., at the northwestern portion of the post. It had formerly been Base Hospital No. 1, which comprised a main building of nine wards, a mess hall and kitchen, an X-ray and operating room. Adjacent structures contained the laboratory and the mortuary. During the fall of 1916, 20 pavilion wards and a kitchen were erected to the east of the main building to provide an increased capacity necessitated by the mobilization of troops on the Mexican border.

The terrain of the region is gently rolling. The soil is a mixture of loam, clay, and gravel, which readily pulverizes in dry weather and becomes a tenacious mud following rains. In the vicinity of the hospital there were very few trees to afford surcease from the rays of the sun. The climate is excellent during a great part of the year, with a predominance of sunshine. During the short winter the thermometer seldom goes below the freezing point. In summer, however, one is made overly conscious of the heat because of the relatively high degree of humidity. This heat of the day usually lingers until well along toward the early morning hours, when a breeze from the Gulf of Mexico gently neutralizes it.

There were a few good roads in the hospital area at the time of its enlargement. These were added to during the year 1918. Connecting Fort Sam

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Fort Sam Houston, Tex.," by Capt R. D. Wilson, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's office, Washington, D. C.—*Ed.*

Houston with its surroundings were many serviceable and durable gravel roads which had been covered with an asphaltum compound.

In the summer of 1917, 10 additional pavilion wards were constructed at a place just to the east of that where the 20 temporary wards had been erected the year previously. In the fall of 1917, a main kitchen was constructed, and an extension of the main building was made to provide for a new operating room, an X-ray department, and a ward for women patients. In the spring of 1918 a new building was constructed for the department laboratory, and the building which had been previously used as a laboratory was converted into a mortuary. Not long after this time the contagious disease section grew to such proportions as to necessitate a reorganization, and 10 temporary buildings were constructed with a view to their use for isolation purposes. For this reason they were placed at a point separate from the remainder of the wards and were provided with an auxiliary kitchen which permitted the practice of absolute quarantine. Two wards for psychiatric cases were completed later in the spring, giving the hospital a very valuable addition to its services.

The main hospital building, constructed for peace-time needs, was conveniently arranged in its plan. It was adequately heated by steam, was well ventilated, and lighted by electricity. The temporary pavilions, however, were hastily planned and constructed. They had been placed quite too closely together, and because of this interrupted the free access of breezes.

The original quarters for the nurses were inadequate for the increase in their number, so 4 two-story dormitories were constructed during 1918 for the accommodation of the excess. The same condition of affairs was true regarding the enlisted men of the Medical Department, and an additional barrack of 300 capacity was erected. Prior to its construction, men who could not be quartered in barracks were given tents in which to sleep.

Three kitchens were operated at the hospital. In the main kitchen was prepared the food for the medical officers, the officer patients, and the nurses. The pavilion kitchen was used in which to prepare the food for the sick in the various pavilion wards and the enlisted men of the detachment, Medical Department. In the auxiliary kitchen food was cooked only for those in isolation in the detached group of isolation wards. From the kitchens in which food was prepared for patients, the cooked food was conveyed to the various wards in insolated food trays mounted on trucks.

An ample water supply was already existent. This was the supply of Fort Sam Houston and San Antonio, the source of which was in wells located on Edwards Plateau, 75 miles distant. It was excellent in quality, though a bit hard, and needed no treatment.

The sewerage system of the hospital was a part of that of Fort Sam Houston. Wastes were disposed of in the incinerator or were carted to the city dump. All refuse food was classified, the edible portions being sold to a contractor for hog feed.

No laundry building was provided the hospital; soiled linen was washed in the post laundry, an activity controlled by Fort Sam Houston.

In the midst of the hospital buildings, the Red Cross constructed a convalescent house for the patients. This Red Cross house was built on the plan commonly used at other base hospitals, and, as elsewhere, it proved a valuable asset to efforts looking to the comfort and welfare of ambulant patients. The Red Cross Society also provided a recreation hall for the nurses. The Young Men's Christian Association was fairly active at the hospital. It provided funds for the construction of a hut which was largely used for the comfort and entertainment of members of the detachment, Medical Department.

Statistical data, United States Army Base Hospital, Fort Sam Houston, San Antonio, Tex., from April, 1917, to December, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise													
1917.																	
April	351	758	326	95	1,530	924	5	27	2	......	......	19	49	498	6	12,708	267
May	504	1,014	382	64	1,964	1,424	8	31	......	1	2	24	48	419	7	13,946	251
June	426	553	826	33	1,838	1,253	7	19	......	......	......	5	53	498	3	14,568	245
July	501	389	708	77	1,675	1,113	7	30	......	......	1	1	65	458	......	14,552	......
August	458	557	703	173	1,891	1,290	8	32	......	......	......	8	43	510	......	16,303	64
September	510	367	1,090	75	2,042	1,243	5	40	......	......	......	7	42	705	......	16,444	......
October	705	252	1,905	68	2,930	1,953	10	40	......	......	1	31	60	835	......	25,087	......
November	835	315	1,905	53	3,108	2,014	23	21	......	......	......	246	55	749	......	23,881	......
December	749	458	1,898	53	3,158	1,744	30	33	......	......	......	257	49	1,045	......	24,428	......
1918.																	
January	1,045	313	3,118	56	4,532	2,802	70	......	......	......	1	47	38	1,574	......	42,054	10
February	1,574	63	2,389	18	4,044	2,348	61	57	......	......	......	12	16	1,550	......	417,588	......
March	1,550	97	2,497	18	4,162	2,509	37	53	......	......	......	13	68	1,482	......	34,262	......
April	1,482	130	1,305	30	2,947	1,750	29	61	......	......	......	104	40	963	......	35,434	......
May	963	78	1,298	68	2,407	1,018	12	88	......	......	1	170	92	1,026	......	30,706	......
June	1,026	53	1,150	61	2,290	1,094	5	67	1	......	......	43	45	1,035	......	31,372	......
July	1,035	92	1,154	70	2,351	998	8	81	......	......	......	75	72	1,117	......	34,209	......
August	1,117	97	954	69	2,237	1,026	4	115	......	......	......	24	126	942	......	32,418	......
September	942	73	806	204	2,025	865	6	63	......	......	......	2	172	917	......	26,404	......
October	917	290	2,562	579	4,348	2,799	102	62	2	......	......	12	190	1,181	......	52,254	......
November	1,181	101	753	529	2,564	1,176	31	46	......	......	2	4	470	835	......	19,309	......
December	835	102	798	305	2,040	887	23	52	......	......	......	20	299	759	......	25,390	......
1919.																	
January	759	52	674	387	1,872	734	17	49	......	......	......	36	191	845	......	25,989	......
February	845	89	671	224	1,829	534	6	54	......	......	5	12	149	1,069	......	17,445	......
March	1,069	77	411	215	1,772	490	2	112	1	......	......	2	198	967	......	29,927	......
April	967	48	324	265	1,604	351	6	207	......	......	1	5	161	873	......	27,427	......
May	873	48	709	217	1,847	313	6	165	......	......	......	12	237	1,114	......	15,475	......
June	1,114	68	826	276	2,284	283	6	139	......	......	......	7	568	1,281	......	51,361	......
July	1,281	57	567	480	2,385	306	7	111	......	......	......	328	365	1,268	......	42,909	......
August	1,268	49	478	376	2,171	306	4	158	......	......	......	286	300	1,117	......	21,081	......
September	1,117	53	317	277	1,764	361	6	156	......	......	......	140	163	938	......	30,066	......
October	938	31	290	225	1,484	382	5	138	......	......	......	20	144	795	......	25,989	......
November	795	35	203	168	1,201	346	7	86	......	......	......	6	92	664	......	21,354	......
December	664	31	298	170	1,163	288	6	72	......	......	......	9	164	624	......	19,407	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1917.				
April	550	264	210	1,024	November	656	295	229	1,180
May	550	264	210	1,024	December	656	295	229	1,180
June	550	264	210	1,024					
July	550	264	210	1,024	1918.				
August	586	275	219	1,080	January	656	295	229	1,180
September	656	295	229	1,180	February	656	295	229	1,180
October	656	295	229	1,180					

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office, and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Fort Sam Houston, San Antonio, Tex., from April, 1917, to December, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
April	16			16	251		251	53
May	15			15	210		210	46
June	39			39	261		261	49
July	101			101	292		292	54
August	89			89	322		322	55
September	77			77	376		376	50
October	67	1		68	402		402	62
November	116	1		117	395		395	68
December	55	1		56	390		390	78
1918.								
January	61	2		63	398		398	95
February	55	1		56	371		371	152
March	55	2	1	58	385		385	153
April	51	1	2	54	695		695	157
May	50	1	1	52	595		595	165
June	53	2	1	56	573		573	156
July	53	2	1	56	582		582	161
August	53	2	1	56	777		777	135
September	56	3	2	61	780		780	159
October	60	3	2	65	670		670	139
November	51	4	2	57	648		648	131
December	51	8	2	61	674		674	116
1919.								
January	50	18	1	69	651		651	112
February	61	8	2	71	538		538	122
March	75	7	2	84	505		505	123
April	72	9	3	84	577		577	95
May	66	8	3	77	527		527	96
June	65	8	5	78	504		504	87
July	66	8	5	79	498		498	92
August	54	8	6	68	492		492	93
September	52	6	6	64	461		461	96
October	41	4	5	50	381		381	97
November	36	4	3	43	323		323	85
December	32	5	3	40	329		329	81

CHAPTER XXXII.

BASE HOSPITALS, CAMPS SEVIER, S. C.; SHELBY, MISS.; SHERIDAN, ALA.; SHERMAN, OHIO; ZACHARY TAYLOR, KY.; TRAVIS, TEX.; UPTON, N. Y.; WADSWORTH, S. C.; AND WHEELER, GA.

BASE HOSPITAL, CAMP SEVIER, S. C.[a]

The base hospital at Camp Sevier was located about three-fourths of a mile northwest of the railroad and station of Paris, S. C. It was in Greenville County and within 4½ miles of the city of Greenville and was situated on rolling country sparsely wooded, but nevertheless very delightful in appearance. It was nearly at the foot of Paris Mountain, one of the foothills of the Blue Ridge chain, its elevation being 1,200 feet above sea level. The climate is very equable, the thermometer being very moderate in its migrations, the maximum temperature being seldom more than 90° F. in the middle of the day, while 12° above zero is only occasionally reached in the coldest of weather. The warm days of summer are freshened by almost constant breezes, and one is exceedingly grateful for the pleasant summer nights, as it is seldom uncomfortable enough to prevent a refreshing sleep. There is almost a total absence of oppression from heat, and there is sufficient change in seasons and in the days to make a continual residence agreeable and to secure the maximum of work with a minimum of discomfort throughout the year.

The soil is rich in nitrites, of a generally sandy consistency, with a top of red clay loam. It is readily convertible into a thick sticky mud in wet weather and as quickly becomes a fine irritating dust in dry seasons.

The streams in the vicinity are small and swiftly running in gravel beds, which, with the permeable soil, materially assisted in solving the sanitary problem of the camp. The zone immediately surrounding the camp was under the supervision of a sanitary officer who supervised the drainage of lowland and stagnant-water areas, removing any possible menace from malaria-carrying mosquitoes.

The roads about the hospital were of the so-called "sandy clay" type, which required considerable attention to keep them passable. They became very muddy and slippery in stormy weather and were the greatest source of dust at other times. To keep them in the best possible condition, they were well crowned and drained.

From a casual inspection of the hospital layout, two decided mistakes were self-evident. The first was that the unevenness of the ground caused some of the buildings to be high, whereas others were quite near the earth's surface; in fact, frequently one end of a ward would be considerably higher than the other. The second mistake was the location of the hospital in its relation to the railroad. It was impossible to construct a spur direct to the main line.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Sevier, S. C.," by Maj. W. E. Kershner, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The hospital proper was of semipermanent frame construction, built upon the pavilion system from plans authorized by the War Department. The hospital faced the north and was originally planned and constructed for a capacity of 500 beds. The communicating corridors were open, all windows were well screened, and the doors doubly so. The original plans were enlarged upon, and ultimately double capacity of the original plans was attained.

The actual organization of the hospital occurred on September 21, 1917, when patients were received in two of the wards. To these wards belong the honor of jointly starting the hospital upon its designated mission and the staff upon the arduous duties which the following months were to see. With the opening of these wards little did those present realize that in less than four months the hospital, with that small beginning, would be efficiently handling more than double the number of patients the completed institution was designed for. Ward completions from this time on went forward steadily and at two or three day intervals wards were thrown open for the reception of patients. Frequently ward equipment and patients were being taken into the front door of a ward as workmen were making their exit from the rear. The last ward to be completed was ward 10, which was occupied by patients on Thanksgiving Day, 1917. By the first of the month following, all of the buildings of the original plan were completed except for some minor details, thus making in all 38 buildings. Subsequently the head house was completed and large additions were made to the quarters for the officers and nurses. In addition to these, 9 two-story frame ward buildings were constructed, as well as a nurses' ward.

The officers' quarters and the mess were located at the north of the hospital, across the road and facing the officers' ward. They contained accommodations for about 80 officers. The original officers' quarters contained 24 rooms about 9 feet by 12, but with the increase in the staff three wings were constructed, those on the east and west of the building being designed for additional quarters, and the middle wing for utilization as a mess hall and kitchen. The original nurses' quarters were on the right flank of the hospital, at the east of the receiving ward. Additional quarters were constructed across the street, which included dormitories, a mess hall, and kitchen. These provisions enlarged the capacity of the nurses' quarters to the extent that a little over 100 nurses could be comfortably cared for. The enlisted men's barracks, four in number, were of the usual frame construction. Many of the enlisted men of the Medical Department were quartered under canvas.

In addition to the above buildings, there were three large frame storehouses, situated east of the hospital. These were used for both medical and quartermaster supplies and were in charge of an officer belonging to the division at the beginning of the work. From him the hospital received its supplies on memorandum receipt. This proved to be an unsatisfactory arrangement, and in the early part of 1918 a property officer for the hospital was designated and the office which he represented was separate from that of the property office of the division.

Of the buildings constructed with the original plan, the one most vividly portraying quaint humor was the chapel. For even a small hospital it was entirely too small and inadequate for the purposes for which it was intended, but it had its uses as an emergency ward under difficult conditions and at different times, and subsequently became an adjunct to the general laboratory.

It did prove of material value for the more serious cases during the early epidemics, when many patients were of necessity cared for under canvas. It is not to be inferred that religious services were discontinued here, because the chapel happened to be too small; these services were held in the more commodious mess halls.

Previous to the opening of the base hospital, patients were collected and treated at the regimental infirmaries. There were no hospital facilities at the camp for the employees of the construction company and the civil hospital in Greenville cared for this class of patients.

The water supply of the base hospital was identical with that of Camp Sevier as a whole, and of the city of Greenville. Its source was from a reservoir on Paris Mountain, and it was distributed through the camp by mains. Chlorination was practiced at the source.

Originally the sewerage was wholly surface. Baths and latrines were built in the rear of each ward. The latrines were of a modified "Havard" type, and the baths were warmed by independent heating plants. Subsequently a complete sewerage system was installed and consisted of a gravity underground system, and a septic tank located in the run between the hospital and Paris station. The disposal of garbage and other wastes was accomplished by evaporation and incineration.

Considerable inconvenience was caused in the early days of the hospital by the absence of stoves. It must be stated, however, that cold weather came in earlier than usual and was exceptionally intense for this climate. At first, small heaters were placed in the wards, but these proved entirely inadequate. Later, large drum heaters were installed, which were a marked improvement. The heating of the officers' quarters and nurses' quarters, and in fact all small rooms, was done by individual heaters. After their installation it was possible to keep comfortably warm, but the running of so many independent fires was a source of great danger, caused considerable dust and dirt, was an inconvenience, and certainly represented a huge waste.

The lighting system of the hospital was in common with that of the camp. The current for its operation was obtained from the Southern Power Co. Its operation may be said to have been only fairly good: the current was turned off with nearly every shower, and this made it decidedly inconvenient if it happened while a surgical operation was in progress.

A laundry building was built, but neither equipment nor machinery was furnished. The laundry of the hospital was taken to the civil hospital in Greenville, a practice which effected a decided handicap to the work of the hospital, because of its wastefulness and slowness.

The equipment for the wards and the hospital in general was at all times sufficient for the estimated quota of patients. Early in the history of the hospital, even before construction was complete, epidemics occurred at the camp which made it necessary for the hospital to keep sufficient property ahead for needs. Supplies came promptly when ordered, requisitions were promptly approved, and the problem was always met and controlled exceedingly well. Many apparently insurmountable obstacles arose, but in all cases the exigencies of the service were met by the administrative heads of the hospital. Ultimately the institution became as well and as completely equipped as any in military or civil life.

The post exchange of the hospital was purely a hospital institution; that is, it had no relation whatsoever with any other exchange in the camp. At its inception sufficient credit for its operation was secured by the backing of the officers on duty at the hospital. This initial credit was transferred to merchandise, and so satisfactorily was the exchange business conducted that shortly there was no debt, and the stock was completely owned by the hospital.

For a while, Red Cross work at the hospital was accomplished by representatives of that society from other sections of the camp. During 1918, however, a large and commodious Red Cross building was constructed, which proved a decided benefit to the enlisted men and convalescent patients and visiting members of their families. It also assisted materially in the recreation problem, which before that time was quite acute.

Statistical data, United States Army Base Hospital, Camp Sevier, Greenville, S. C., from September, 1917, to April 30, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	......	1	293	0	294	163	......	......	......	......	......	2	......	129	......	1,090	......
October	129	9	910	2	1,050	663	4	......	......	......	......	6	......	377	......	7,746	......
November	377	49	1,802	......	2,228	1,330	82	......	2	......	......	109	......	705	......	18,028	......
December	705	71	1,217	1	1,994	1,136	56	2	2	......	......	798	......	......	......	11,072	......
1918.																	
January	798	75	2,082	......	2,955	1,702	31	1	3	......	......	30	111	1,077	......	21,215	......
February	1,077	46	1,889	......	3,012	1,899	17	1	1	......	......	......	93	1,001	......	18,455	......
March	1,001	40	1,761	......	2,802	1,814	7	......	4	......	......	......	100	877	......	24,904	......
April	877	87	1,473	......	2,437	1,596	15	2	1	......	......	......	......	823	......	18,489	......
May	823	41	......	782	1,646	911	9	4	2	......	......	8	1	711	......	14,075	......
June	711	1,048	560	8	2,327	1,061	5	1	3	......	......	47	......	1,210	......	19,237	......
July	1,210	1,254	......	8	2,472	1,234	9	2	1	......	......	75	290	861	......	25,273	......
August	861	769	......	11	1,641	941	2	2	3	......	......	21	116	556	......	15,642	......
September	556	3,132	......	16	3,704	990	13	3	2	......	......	21	92	2,583	......	22,688	......
October	2,583	4,181	......	8	6,772	5,049	332	3	12	......	......	......	227	1,149	......	51,527	......
November	1,149	1,071	......	13	2,233	1,122	19	27	11	......	......	13	469	572	......	20,087	......
December	572	590	......	5	1,167	640	19	15	......	1	......	11	151	330	......	13,960	......
1919.																	
January	330	383	23	1	737	442	10	20	5	......	......	46	9	205	......	7,035	......
February	205	211	3	15	434	244	7	26	......	......	......	32	......	125	......	3,071	......
March	125	62	2	9	198	90	1	1	......	......	......	2	93	11	......	1,657	......
April	11	10	......	......	21	7	......	......	......	1	......	12	1	......	......	249	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
September	2	0	....	2	July	2	9	....	11
October	2	....	....	2	August	2	9	....	11
November	1	....	....	1	September	5	8	....	13
December	1	2	....	3	October	1	1	....	2
					November	5	3	....	8
1918.					December	5	3	....	8
January	2	2	....	4					
February	2	3	....	5	1919.				
March	2	3	....	5	January	1	8	....	9
April	2	5	....	7	February	1	9	....	10
May	2	8	....	10	March	1	6	....	7
June	2	9	....	11	April	6	4	....	10

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office, and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Sevier, Greenville, S. C., from September, 1917, to April 30, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	26	1	1	28	124	....	124	6
October	46	1	1	48	129	....	129	26
November	53	2	1	56	382	....	382	59
December	56	2	1	59	381	....	381	63
1918.								
January	60	3	1	64	375	....	375	65
February	61	3	1	65	373	....	373	93
March	72	4	2	78	527	19	546	94
April	78	3	1	82	382	19	401	110
May	73	3	1	77	388	19	407	110
June	79	3	1	83	469	19	488	102
July	79	3	1	83	462	....	462	123
August	64	3	1	68	494	....	494	120
September	64	3	1	68	513	....	513	110
October	66	4	2	72	692	....	692	142
November	64	4	2	70	696	....	696	130
December	42	8	2	52	598	....	598	103
1919.								
January	29	5	2	36	451	13	464	87
February	22	5	2	29	233	13	246	64
March	11	1	1	13	97	....	97	....
April	1	....	....	1	....	....	....	....

BASE HOSPITAL, CAMP SHELBY, HATTIESBURG, MISS.[a]

Camp Shelby was located in Forrest County, Miss., 10 miles from Hattiesburg. The location ranges from 300 to 500 feet above sea level, 150 to 200 feet above the surrounding country, and is about 55 miles from the Gulf of Mexico. The soil is either loam, or sandy loam, with a substratum of clay; in some places clay and gravel. The terrain is undulating and the natural drainage is excellent. The climate is very equable. The annual mean temperature is 67.8° F.; the annual mean rainfall is 58.8 inches; and the annual mean humidity is 77 per cent. During the summer months there is a delightful breeze, usually from the Gulf of Mexico, which blows during the afternoon and evening.

The camp was located on land from which long-leaf pine had been removed a few years previously. This land had never been cultivated; therefore, during dry weather, the dust was not such a disturbing factor as in some regions, though it was, of course, an annoyance where the soil had been pulverized by much activity incident to drilling. After rains the water ran rapidly from the surface and the mud was not of the sticky type.

There was an abundance of gravel near the camp, and this simplified the construction of roads through the camp. Roads were sprinkled around the hospital, and in many other parts of the camp, thus minimizing dust. Many of the public roads in the territory adjacent to camp were either graveled or improved dirt roads.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Shelby, Miss.," by Maj. W. W. Crawford, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The hospital was organized September 17, 1917. Prior to the completion of the base hospital, a field hospital cared for the medical cases, and the important surgical cases were sent to the South Mississippi Infirmary, in Hattiesburg.

On September 26, 1917, the hospital had its formal opening, though some of its departments—notably the surgical pavilion and the X-ray department—were not prepared to operate until several weeks later, on account of lack of equipment. The plan followed in the construction and the distribution of the hospital buildings was principally that outlined by the Surgeon General's Office. Deviation in the location of some buildings was made to conform to terrain.

Quarters were furnished for both nurses and officers. The buildings were of the same type, being large one-story structures, roughly furnished but crudely comfortable. The nurses were housed in two buildings, built and equipped especially for this purpose, that were situated at the south boundary of the hospital grounds, facing each other, one on either side of the main thoroughfare through the grounds. These buildings were rectangular in shape, with three wings built on to the back. There were 26 private rooms in the old building and 38 in the new. The two end wings were used for dormitories in the new building, while the middle wing was used for the dining room and kitchen. Each building had an office and reception room. They were equipped with running water, hot and cold baths, both shower and tub, and they were electric lighted throughout. The rooms were sparingly furnished, but comfortable. A small infirmary was attached to one wing. The officers' quarters were situated opposite the officers' ward, facing the main thoroughfare. It was built on the same plan as the nurses' quarters. It comprised a main building and three wings, and had a total of 55 rooms. The middle wing was divided into an assembly room, dining room, and kitchen. The remaining wings were partitioned into separate rooms, each containing a wardrobe and small table. The building was equipped with hot and cold water, a shower and tub bath, and electric lights.

During the first few days after the hospital was opened, meals were served the commissioned personnel from the contractor's mess. This plan was followed until the officers' ward was opened, where meals were then served until April, 1918, when the officers' mess was organized. The enlisted men's mess was located at the extreme northern portion of the hospital grounds. It was of the standard one-story type, consisting of two long parallel buildings united by an inclosed corridor. The first wing was but partially completed September 21, 1917, when it began serving 120 men. In November, 1917, the number served had increased to 270, and in March, 1918, to 500, which number necessitated serving the men in two shifts. Mess kits were used until about May 1, 1918, because table equipment could not be obtained previous to that time. In June, 1918, the second wing was completed, the old kitchen fixtures were torn out, and modern, up-to-date equipment installed. Double screen doors, ample storerooms, built-in refrigeration, etc., were provided.

There were four storehouses connected with the base hospital. These accommodated the needs of the institution comfortably, though they did not exceed its requirement.

The laundry building was completed, but no machinery was installed in it. Laundry work was done by local commercial companies.

Located between ward 12 and the mortuary was the chapel, which had a seating capacity of about 200. During the measles epidemic of 1917–18, it was used as a ward. Later, religious services were held in it under the auspices of the Young Men's Christian Association and the various chaplains of the division.

The original water supply for both camp and base hospital came from a number of springs of cold crystal water, located about 1 mile from the hospital. Three-quarters of a million gallons of water was daily provided from this source. Though of excellent quality, it was thought best to chlorinate it as an added caution. Three 6-inch artesian wells were sunk to the depth of 350 feet. Their combined daily capacity was 800,000 gallons. On account of the increased consumption of water incident to sprinkling, etc., in summer, the quartermaster constructed another 6-inch well to a depth of 725 feet.

Originally there was no sewerage system, which entailed the use of latrines. Ultimately, however, a sewerage system was provided the hospital.

The garbage from the various messes was placed in properly closed galvanized-iron cans and was removed once or twice daily by a farmer who utilized it for feeding hogs. The tin cans were crushed, punctured, subjected to heat in an open furnace, and then carted away.

During the early months of the hospital, an extemporized shower bath of cold water was the only available form of bath. Later, each ward had a shower of hot and cold water, a modern tub, two lavatories, two commodes, one urinal, and a sink. In addition, there were two sinks, one in the diet kitchen and one in the scrub room, and a lavatory stand in diet kitchen and in office.

The heating system of the hospital was unsatisfactory: two large stoves with galvanized hoods around them were installed in each ward; the type of stove suggested that it was probably intended as a hot-air furnace; but when used with its hood in place, practically all the heat was directed upward and escaped through the ventilators. The removal of the hoods improved the situation, but the amount of coal required was enormous. The surgical pavilion had its own heating plant and was quite popular during the cold weather.

The camp and the base hospital received their electric current from the Hattiesburg Traction Co. The supply was adequate and satisfactory. Wards were lighted by one central row of ceiling lights, shaded by opaque bulbs.

Located in the quadrangle of the main hospital grounds, the post exchange building performed a threefold function: it provided a barber shop, a recreation room, and one large room in the center of building in which were sold soft drinks, tobacco, candy, cakes, fruit, and a number of small articles that were so essential to the comfort and pleasure of the patients and the enlisted personnel. The post exchange not only filled a rather definite place in the economics of hospital comfort, but its dividends were a source of definite inflation of the hospital fund.

The Young Men's Christian Association had no building, but had a resident secretary who contributed to the comfort of the patients in several ways. The camp Young Men's Christian Association, with its numerous buildings, was a very definite factor in the entertainment and diversion of the men in camp, but inasmuch as it had no definite headquarters or recreation facilities at the base hospital, it did not make the same impression on the convalescent population as the Red Cross. The latter organization found its definite place in the economics of the base hospital through the advent of the Red Cross nurse.

Subsequent to the opening of the base hospital, the Red Cross spent approximately $100,000 for the benefit of the soldiers stationed at Camp Shelby. About $25,000 of this amount was expended for permanent improvements, which included a nurses' recreation building and a large recreation building for the convalescent patients and the enlisted personnel of the hospital.

Statistical data, United States Army Base Hospital, Camp Shelby, Hattiesburg, Miss., from September, 1917, to June, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	......	2	135	......	137	3	.....	.....	.....	.....	.....	2	.....	132	......	412	......
October	132	794	84	......	1,010	561	4	3	.....	.....	.....	.....	.....	442	......	10,938	......
November	442	2,273	40	......	2,755	1,495	8	9	.....	.....	.....	1	1	1,230	11	27,375	133
December	1,241	1,224	155	4	2,624	1,518	49	7	.....	.....	4	1	86	943	16	32,118	322
1918.																	
January	959	1,442	126	......	2,527	1,198	13	1	.....	.....	.....	2	217	1,096	......	3,112	320
February	1,096	1,149	80	5	2,330	1,028	11	4	.....	.....	1	.....	255	1,024	7	30,080	200
March	1,031	1,053	6	18	2,108	869	12	39	.....	.....	1	7	341	828	11	27,946	209
April	839	1,369	116	14	2,338	1,169	10	52	.....	.....	2	2	299	804	......	28,079	......
May	804	636	83	29	1,552	666	8	29	.....	.....	1	1	163	680	4	22,621	243
June	684	739	91	15	1,529	702	1	20	.....	.....	.....	13	158	635	......	21,527	......
July	635	1,182	139	28	1,984	838	6	35	.....	.....	.....	28	166	908	3	22,051	43
August	911	2,755	35	22	3,723	1,799	7	21	.....	.....	.....	5	370	1,513	8	37,283	155
September	1,521	1,673	20	11	3,225	1,854	12	18	.....	.....	.....	12	619	708	2	34,761	247
October	710	2,331	3	......	3,044	959	14	.....	.....	.....	.....	14	312	1,734	11	29,389	159
November	1,745	884	......	......	2,629	1,713	41	4	.....	.....	.....	13	412	446	......	32,652	280
December	446	714	43	9	1,212	587	4	1	.....	.....	.....	9	140	467	4	14,573	235
1919.																	
January	471	661	112	1	1,245	691	8	.....	.....	.....	1	9	142	391	3	13,706	144
February	394	353	109	......	856	460	.....	.....	.....	.....	.....	7	160	227	2	8,776	101
March	229	423	342	......	994	598	1	.....	.....	.....	.....	7	98	289	1	9,046	53
April	290	694	9	9	1,002	693	2	.....	.....	.....	.....	6	18	283	......	9,469	......
May	283	584	4	10	881	658	3	.....	.....	.....	.....	15	17	188	......	8,686	......
June	188	168	1	11	368	154	1	.....	.....	.....	.....	76	14	123	......	4,612	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
September	15	....	....	15	September	8	11	....	19
October	15	....	....	15	October	....	....	....	....
November	25	....	....	25	November	....	....	....	....
December	25	....	....	25	December	4	19	....	23
1918.					1919.				
January	20	....	....	20	January	4	15	....	19
February	20	....	....	20	February	4	11	....	15
March	32	....	....	32	March	3	11	....	14
April	60	2	....	62	April	3	8	....	11
May	38	....	....	38	May	3	6	....	9
June	20	13	....	33	June	1	5	....	6
July	4	11	....	15					
August	4	11	....	15					

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Shelby, Hattiesburg, Miss., from September, 1917, to June, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous. (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous. (Q. M. C., etc.).	Total.		
1917.									
September	52	2	1	55	127	....	127	3	3
October	50	4	1	55	138	....	138	32	1
November	40	7	1	48	216	....	216	64	1
December	45	6	1	52	219	....	219	70	2
1918.									
January	50	3	1	54	216	....	216	71	....
February	58	3	1	62	216	....	216	88	....
March	73	4	1	78	293	....	293	91	....
April	85	3	1	89	493	20	513	132	....
May	97	2	1	100	491	20	511	117	....
June	89	3	1	93	492	20	512	119	....
July	84	4	1	89	489	20	509	130	....
August	79	3	1	83	483	20	503	131	....
September	73	3	1	77	474	20	494	149	....
October	87	3	1	91	481	19	500	145	....
November	73	3	1	77	473	18	491	120	....
December	62	5	3	70	478	20	498	125	....
1919.									
January	47	5	3	55	470	17	487	106	....
February	42	4	3	49	344	17	361	65	....
March	35	4	3	42	286	13	299	48	....
April	27	3	2	32	260	12	272	49	....
May	23	3	2	28	229	7	236	46	....
June	17	2	4	23	126	1	127	20	....

BASE HOSPITAL, CAMP SHERIDAN, ALA.[a]

The base hospital of Camp Sheridan was located in Montgomery County, Ala., about 5 miles northeast of the city of Montgomery.

The terrain of this region is a slightly rolling open country. It is well watered, and is recognized as good farming land. The soil is a sandy loam, covering a deep clay substratum, and there are areas of gravel along the banks of an adjacent creek just to the northeast of the hospital site. In hot, dry weather there is a great deal of dust but, inasmuch as the hospital was situated 2 miles from the military camp, off the line of autobuses, and beside a road that was traveled mainly by vehicles in business association with the institution, the hospital did not suffer seriously from clouds of dust such as occasionally visited the camp.

Rains in this region are very heavy, sometimes torrential in character, but the fields do not become very muddy, and the water is absorbed or carried off so rapidly that walking over the ground is possible within a few hours after.

The climate might well be considered ideal for a military post. The United States Weather Bureau has compiled the statistics of meteorological conditions for the past 45 years, between 1872 and 1916, and these show that the average mean temperature for the spring months (March, April, and May) is 65.6° F.; for the summer months, 80.8°; for autumn, 65.8°; and for the winter months,

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Sheridan, Ala.," by Maj. Henry O. Reik, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

49.5°; which makes the average annual temperature 65.5° F. During the year 1916, the latest for which published figures are available, the extremes of temperature were as follows: Highest, 99° on May 27; lowest, 21° on February 3. There was no snow that year and the same held true for the winter following. The rainfall, however, amounted to a total of 46 inches, with 5.73 inches as the greatest fall within 24 hours; that occurring July 6 and 7. Sunshine existed in 63 per cent of the possible number of hours. In the course of the year there were 62 thunderstorms, 30 of these occurring during the months of June and July, while October and November were the only months entirely free of this phenomenon. High winds are unusual, the average velocity for the year 1917–18 being 6.6 miles per hour; only once during the year did the extreme velocity exceed 36 miles. In the spring and summer months the prevailing winds are west to southwest, and in the fall and winter months northwest to north.

The roads in and about the hospital reservation were excellent, being constructed of a sand-clay base with a gravel-top dressing.

The buildings occupied the high ground to the east of Lomax Creek, a tributary of the Alabama River, while to the eastward spread out a rolling plateau for a distance of 4 miles, to the Tallapoosa River, this region being intersected by many small branches and creeks flowing northward into one or the other of the above-named rivers. The main road from the city, or the camp, crossed Lomax Creek by a concrete bridge, 75 feet long, with an arch 30 feet above the water. The stream at this point was some 30 feet wide and quite shallow, not exceeding 3 feet deep in its central pools. On each side of the creek there was a strip of wooded swamp which was properly drained and prepared against mosquito development. The outflowing water from the hospital's septic-tank sewage plant emptied into the creek just below this bridge. There were no near-by farmhouses, none within a mile and a half to the west, south, or east, and those to the northeast were upon land that necessarily drained into the streams flowing away from the hospital district.

The base hospital was organized by the commanding officer reporting for duty August 15, 1917, in compliance with Special Orders, No. 176 (par. 108), W. D., July 13, 1917. On August 21 the general plan of grounds for the base hospital were staked out, and the work of grading same started on August 25. There were present for duty in the beginning the commanding officer, a supply officer, one sergeant, first class, Medical Department, and three sergeants, Medical Department.

Quartermaster's warehouse No. 6 was, by permission of the camp quartermaster, first occupied as an office for the base hospital and for a medical supply depot. On September 13, 1917, the infirmary of the 74th Brigade was turned over to the base hospital for temporary quarters and on October 9 removal was made to the present hospital; the administration building, one structure for officers' quarters and six hospital wards being then sufficiently advanced for occupancy.

The construction of the hospital had been sufficiently advanced by October 9, 1917, to permit the use of the administration buildings and six wards. From this date the organization of the institution may be said to have begun. Construction was subsequently pushed, and within a comparatively short time all of the buildings originally planned for had been completed. As constructed, the hospital groups covered an area of 40 acres. Its pavilions, arranged on the standard plan for base hospital, ran east and west, which limited the exposure of their walls to the sun's rays practically to the southern side. There were 25 wards originally constructed; but, to increase the capacity of the hospital, six two-story ward barracks were provided during the early part of 1918. In the same year an extension was made to the laboratory building, almost doubling its capacity; and a head surgery building was erected, with special clinic rooms for ophthalmology, otolaryngology, and dentistry. The ward additions made a total authorized bed capacity of 1,310.

The officers' and nurses' quarters were frame buildings of the simplest form of construction—buildings 25 by 100 feet, with a central hall running lengthwise, and the small rooms (10 by 10 feet) opening off either side. Near the center, one room was fitted with toilet facilities and one for bathing purposes. The enlisted men occupied barracks constructed in much the same manner save that they were in the form of a dormitory instead of having separate rooms.

There were three large kitchens and mess halls. The largest, situated nearly in the center of the hospital quadrangle, was for the patients and the enlisted personnel. The others were for the officers and the nurses in their respective quarters. All were well equipped with the essential apparatus.

Five warehouse buildings were used for the storage and issue of supplies; one was the camp medical supply depot, one the hospital medical supply depot, one the hospital quartermaster's supply station, and two were general storehouses, one of these being used in part as a carpenter shop.

A separate building at the south end of the grounds was provided for a laundry, but it was not equipped for work, and it was used solely as a sorting room, all the linen being sent to the city laundries.

In the early days of the organization there was, quite naturally, considerable delay in securing satisfactory equipment, and the work had to be done under many difficulties. The surgical department suffered perhaps more from this than did the medical. The operating pavilion was not started until after most of the wards had been completed, and even then there was a long delay in procuring the necessary furniture and supplies and, especially, in installing the steam sterilizers. Pending that, all of the surgical work was performed in the city; all surgical cases being transported to St. Margaret's Hospital, where every facility was placed at the disposal of the Army surgeons.

Ultimately, the equipment of the hospital was almost perfect, and the most complicated and technical surgical procedures could have been undertaken with the same assurance of success as would attend similar operations in civil hospitals. At first some of the surgeons had to rely upon instruments of their own, fortunately brought along, but this condition rapidly became corrected by requisition.

The water supply for both the hospital and the camp was obtained from the general supply of Montgomery City through the medium of a special pipe line. The origin of this water was a series of artesian wells, and it was so pure that neither filtration nor any form of sedimentation was necessary.

In the early days of the hospital regulation Army latrines were used, but these were all disposed of, and all wards and nearly all the other buildings were equipped with water-closets connecting with underground sewer pipes that conveyed the sewage to a large septic tank located on the bank of the creek about 100 yards to the west of the hospital.

No animals being kept at the hospital, manure disposal was not a problem. Kitchen waste and general garbage were destroyed in open-air incinerators.

Each of the officers' quarters, nurses' quarters, and ward buildings was supplied with a lavatory and bathroom, provided with hot and cold water, the heating being done by a stove installed in a shed outside each building.

It was unfortunate that no central heating plant was established. In the wards a large soft-coal burning furnace was located in the central part of the room. In quarters and in the smaller buildings reliance was placed upon small egg-shaped stoves, also burning soft coal. Naturally, the heating was imperfect and irregular, an inordinate amount of service attention was required, great waste was a necessary evil, and fire risk was beyond exaggeration.

January 18, 1918, fire broke out in the officers' quarters at 5 p. m., causing an estimated loss of $1,000, beside the heavy personal losses of those resident in that building. February 11, 1918, fire in ward 41, at 11.45 a. m., caused an estimated loss of $750. An efficient volunteer fire department, and the fact that both fires occurred during the daytime, were all that prevented serious catastrophes.

The lighting of the hospital was by electricity furnished from the Montgomery Electric Light & Power Co. The service was both efficient and cheap. In fact, the rate, 5½ cents a kilowatt hour, was considered exceptionally low. Montgomery enjoyed this rate by virtue of the fact that the electricity could be made by water power from the Alabama River. In consequence, the lighting of the hospital buildings, corridors, and grounds was very satisfactory.

The chaplain of the old 2nd Ohio was attached for special duty to the base hospital on November 8, 1917. The following Sunday, November 11, religious services were held. As the little building designated "the chapel" was so distantly related to the main part of the hospital, it was decided to use one of the rooms in the receiving ward, which was much more convenient, as the place of worship.

The hospital post exchange opened September 5, 1917, in an unused camp mess hall. When the new hospital was opened a special exchange building was provided, and here, in addition to the store, a barber shop, tailoring shop, and the post office were established. The exchange was well patronized and considerable profit was derived from it, which was periodically invested to the benefit of the enlisted men of the hospital.

There was no Young Men's Christian Association building at the hospital, but representatives of the organization provided entertainment for the patients and personnel, making use of the patients' mess hall and Red Cross convalescent building.

The American Red Cross constructed a handsome building for its activities and a recreation building for the nurses.

During the early weeks of the base hospital's existence no, or at best but sporadic, attempts were made to furnish diversion and amusement for the sick and injured. The hospital itself was far from being completed and the energies of everyone were bent in that direction. In November the 1st and 7th Ohio Regiments were absorbed by the 147th Infantry, leaving their bands unattached. One of these bands was secured by the hospital and detailed there by order of the division commander. This was the band of the former 1st Ohio Infantry, Cincinnati. The members, being quartered in one of the old barracks, entered into their new duties with enthusiasm and in a short time converted the band from a marching body into a concert organization. Concerts were given daily in the quadrangle between the operating pavilion and the patients' mess hall. Later, when the weather became cooler, the concerts were held Tuesday evenings in the temporary chapel. Soon the townspeople began to show an interest and the concerts were augmented by vocal and instrumental solo selections, to which the faculty of the Women's College lent no little aid. On Sunday afternoons at 2 o'clock the band held open-air concerts in front of the hospital.

Statistical data, United States Army Base Hospital, Camp Sheridan, Montgomery, Ala., from August, 1917, to May 15, 1919, inclusive. [a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.														
			By transfer.	Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
August	......	1	......	......	1	1	......	......	......	......	......	......	......	......	......	......	......
September	1	101	105	......	207	96	1	......	......	......	......	......	......	106	4	1,284	187
October	110	518	65	2	695	363	2	......	......	......	......	1	1	325	3	6,466	87
November	328	826	25	2	1,181	810	2	6	......	......	......	......	3	360	......	12,230	......
December	360	806	16	1	1,183	835	3	9	......	......	......	......	2	334	......	10,439	......
1918.																	
January	334	1,728	33	1	2,096	1,410	13	......	......	......	......	......	......	673	......	17,129	......
February	673	847	1	......	1,521	978	14	7	......	......	1	......	12	509	......	15,331	......
March	509	863	8	3	1,383	870	7	......	......	......	......	3	6	497	......	18,147	......
April	497	2,021	6	6	2,530	2,002	7	2	......	......	......	......	5	514	......	20,577	......
May	514	777	3	3	1,297	827	3	10	......	......	......	2	......	455	......	13,677	......
June	455	700	7	7	1,169	590	3	12	......	......	......	......	6	558	......	15,202	......
July	558	507	10	7	1,082	508	4	22	......	......	......	......	15	533	......	15,722	......
August	533	1,120	19	19	1,691	754	3	6	1	......	......	4	18	905	......	23,474	......
September	905	1,240	30	17	2,192	962	4	14	1	......	......	4	104	1,103	......	28,294	......
October	1,103	4,732	88	......	5,923	4,655	146	5	2	......	......	2	49	1,064	......	60,100	......
November	1,064	690	12	6	1,772	1,130	26	10	......	......	......	......	46	560	......	23,921	......
December	560	623	78	4	1,265	729	9	6	2	1	......	3	41	474	......	16,633	......
1919.																	
January	474	489	115	18	1,096	776	7	4	1	......	......	6	15	287	......	12,966	......
February	287	212	127	5	631	389	1	4	......	......	......	9	11	217	......	6,705	......
March	217	53	65	16	352	189	......	7	......	......	......	117	31	......	......	2,001	......
April	5	10	1	1	17	14	......	......	......	......	......	......	1	2	......	156	......
May	2	2	2	2	8	1	1	......	......	......	......	3	3	......	......	47	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Sheridan, Montgomery, Ala., from August, 1917, to May 15, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	40	2	2	44	127	....	127	....
October	32	2	1	35	129	....	129	....
November	28	2	1	31	287	....	287	....
December	28	3	1	32	284	....	284	26
1918.								
January	35	4	1	40	275	....	275	45
February	39	4	1	44	323	15	338	62
March	38	5	1	44	325	16	341	91
April	40	4	2	46	347	16	363	92
May	41	5	1	47	318	16	334	92
June	36	3	1	40	336	15	351	88
July	34	1	1	36	464	14	478	100
August	30	1	1	32	424	16	440	76
September	23	3	1	27	429	13	442	85
October	31	3	1	35	426	13	439	88
November	33	3	1	37	435	12	447	89
December	32	6	1	39	477	12	489	77
1919.								
January	30	6	1	37	591	12	603	72
February	23	6	1	30	421	9	430	66
March	6	5	....	11	36	....	36	18
April	5	5	....	10	37	....	37	6
May	4	2	....	6	20	....	20	6

BASE HOSPITAL, CAMP SHERMAN, CHILLICOTHE, OHIO.[a]

The hospital group was about 3 miles from the center of the town of Chillicothe (15,000 inhabitants, 1915), Ross County, Ohio, and 54 miles from Columbus, the capital of the State.

The choice of a site upon which to build Camp Sherman, and with it the base hospital group, was influenced by the fact that it is an historic military spot. In this region, then a part of the old Northwest Territory, a detention camp was established for British prisoners of the War of 1812; and it is an interesting commentary on that fact that some of their descendants assisted in the erection of the buildings and in preparing the grounds of the hospital. Moreover, a portion of the camp site was occupied in the early days by an old Indian stockade, used for camping and war purposes by the aborigines.

The Scioto Valley, in which the base hospital was situated, although not far from the Kentucky line, is usually quite cold in winter; the thermometer in January and February often reaches zero, Fahrenheit, or below it, and there is generally plenty of snow during these months. The summers are sometimes quite hot.

The hospital buildings were erected facing the Frankfort Pike, between it and the low range of hills that encircle the flat valley plateau on which the camp proper was built. There are scattered groups of trees along the highways and on the hills.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Sherman, Ohio," by Lieut. Col. Casey A. Wood, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The soil (cultivated farm land) is a sandy gravel covered by a layer of gumbo clay of varying thickness. Water-smoothed, small-sized gravel, containing very few bowlders and admirably adapted for road building, can almost everywhere be found at a depth of from 3 to 10 feet. The principal objection, from a hospital standpoint, to the site as a cantonment hospital was this uppersoil deposit of clay, commonly known as gumbo. After rains this stratum is readily converted into an adherent mixture that is easily carried into the hospital buildings, and which, in spite of steel scrapers and other devices, is almost impossible to remove from the footwear. In continued dry weather also the clay forms a fine, impalpable dust which rises in clouds from the dirt roads and filters through the screens of neighboring windows. There are no disagreeable prevailing winds.

At first there were few concrete or asphalted roads or streets in or near the hospital. This defect was slowly remedied, however, until in the spring of 1918 cindered walks and roads were built all over the site of the hospital.

The water supply, from artesian wells, was demonstrated to be remarkably clear and bacteria free, but impregnated with iron and lime salts, hence quite hard and pleasant to drink, although far from ideal for washing purposes or for use in the boilers of the heating plant and laundry, owing to the deposition in them of ferrocalcitic salts. The water supply of the whole camp was obtained from one large dug well and five drilled wells located in the northeastern portion of the cantonment property, near the Scioto River. All of these wells secured their supply from an excellent water-bearing gravel stratum at depths varying from 80 to 90 feet from the surface. The dug well was 20 feet in diameter and about 70 feet deep and was cased with steel piling supported by a wood templet or centering. The top of the well was curbed with brick and concrete and provided with a tight wooden cover. Two of the drilled wells were 6 inches and three of them 8 inches in diameter. They were located about 250 feet apart. The water from the wells was pumped by means of motor-driven centrifugal pumps. Four of these pumps were located in the main pumping station and were of sufficient capacity to furnish 750 gallons per minute each against a head of 250 feet. The small centrifugal pumps had a capacity of 400 gallons per minute and pumped the water into a suction well of 25,000 gallons capacity near the pumping station, the suction lines for the main pumps being connected with this well.

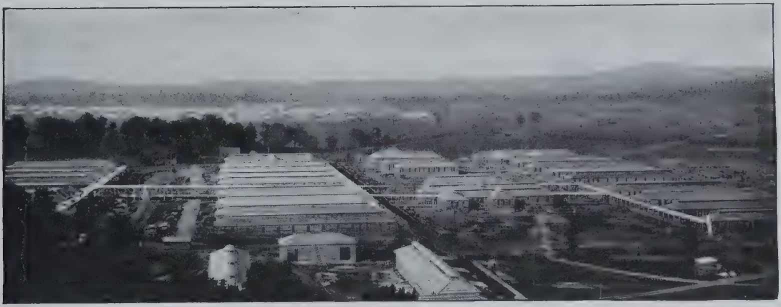
FIG. 197.—View of Base Hospital, Camp Sherman, Chillicothe, Ohio.

The water was pumped directly through the distribution system to four 100,000-gallon storage tanks located on a hill northwest of the cantonment. These tanks were constructed of redwood on concrete foundations and were about 220 feet above the water in the wells. There were also two 25,000-gallon tanks located on the hill above the hospital group at the same elevation as the main storage tanks. This additional water supply not only helped, from the ordinary consumption point of view, but it meant more protection in case of fire. The distribution system was made up largely of wood pipe from 6 to 14 inches in size, and extended throughout the cantonment. Hydrants were provided at frequent intervals, and small service pipes were connected with the various lavatories and kitchens. As an additional sanitary precaution a liquid chlorine disinfection device was provided at the pumping station to disinfect the water supply in case of emergency.

The main sewerage system of Camp Sherman, of which the hospital system formed a part, consisted of two trunk sewers from 8 to 24 inches in size, one of which was located on each side of the cantonment, discharging into an outfall sewer 30 inches in size. This sewer in turn joined a treatment plant, located along the Baltimore & Ohio Railroad, to an outlet in the main channel of the Scioto River, a small stream that skirted the east boundary of the camp at a point near the outlet of the most northerly sewer for the town of Chillicothe. Connected with the main trunk sewers was a large number of 6-inch lateral sewers extending to the various lavatories and kitchens throughout the cantonment. Manholes, located at frequent intervals, were constructed of concrete with wood covers. The sewage was disposed of in two concrete tanks 50 by 150 feet in plan and having a capacity of 500,000 gallons. The effluent from these tanks was treated with liquid chlorine disinfectant solution. This device was located in a separate house adjacent to the tanks and automatically fed into the tank effluent in proportion to the rate of flow through the tanks.

The urinals and closets were of the latest and best types of permanent construction; they emptied into the sewerage system just mentioned.

Hospital construction at Camp Sherman may be divided into two periods: first, that of camp construction in general, and second, that of readiness for the reception of patients.

During the former period the so-called emergency hospital was very useful and served especially the Bentley organization, and was commonly known as the Bentley Hospital. It was, however, inaugurated and controlled by the Aetna Insurance Co., which had charge of all the insurance of the Bentley employees. This small building was placed at the entrance of the camp, and prominent signs posted all over the cantonment gave instructions to rush all injured men to it. There were generally but a few patients in this small hospital, but it acted as an emergency hospital for the Chillicothe hospital mainly, and, later, the embryo base hospital.

On June 20, 1917, the first contingent of troops (to guard construction work) appeared, when Company D, of the Ohio Engineers, from Cleveland, pitched their tents on the grounds. Shortly after, the commanding officer of the base hospital was selected, and his staff began to arrive at Chillicothe. At that time the organization consisted of a small group of officers in barracks B–33. The commanding officers' offices, officers' mess, and the enlisted men's mess were all in barracks A–34. With one or two exceptions the officers of the staff slept and had their quarters in barracks B–33. By the end of November, 1917, the staff numbered about 65.

The single operating room of the future base hospital was for the time the kitchen of barracks A-34, the second story of the building being given up to ward space. The small number of patients, between 20 and 30, were more than amply provided as to wardmasters, nurses, and orderlies by the assignment of an ambulance company of 100 men, recruited from Northwestern University and Evanston, Ill., and at that time stationed at Fort Sheridan, Ill. This fine body of men, with the patients and personnel of the hospital itself, were transferred to the permanent buildings of the base hospital group on the 17th of September, 1917. This portion of the enlisted equipment, with the exception of some half dozen men, subsequently was detached from the hospital service to various other organizations, but especially to the aviation section of the Signal Corps. In addition to these, 21 enlisted men of the Medical Department of the Regular Army were assigned to the base hospital, of whom 15 were still on the same duty on November 20, 1917.

At last the commanding officer decided that the wards of the base hospital were sufficiently finished to permit of their partial use in receiving bedridden patients, so on September 17, 1917, the equipment of the primitive hospital was conveyed by ambulances and automobile lorries to what were later known as wards 9 and 10 of the permanent base hospital, the services being divided into medical and surgical. At the same time the staff officers moved to regular officers' quarters. In this connection it is to be noted that the original plans of the base hospital provided for two such buildings, one on each side of the house allotted to the commanding officer. However, it was discovered that the site assigned on the plan for the second building was the middle of the high road or pike and so it was not constructed in that locality and not until the following year. In consequence, late arrivals had to be quartered in the officers' ward and elsewhere.

For the 1,000-bed hospital there were buildings for administration, receiving ward, officers' quarters, officers' ward, nurses' quarters, operating room, X-ray and research laboratory, 32 single wards, 4 isolation wards, kitchen, mess hall, exchange, powerhouse and heating plant, laundry, commissary stores, repair shop, 6 barracks with 2 lavatories, a chapel, mortuary, fire-engine house, garage, and guard house. All of these buildings (65 in number) were built of frame construction.

The ward buildings, administration, officers' and nurses' quarters, and exchange had porches.

At first there was little privacy and but little chance of improvement, even in permanent officers' quarters. Before a fortnight had elapsed, however, a remarkable change had taken place in them as well as in all the hospital buildings. In the early days only wards 9 and 10 were occupied, by all classes of patients, there being at that time no general infectious cases. The dispensary was settled in ward 10. There was, at first, an irregular supply of water, doubtful and insufficient lighting, and no heat, except from a scant supply of coal-oil stoves, a few electric heaters, and one or two electric lamps. It was also quite a common occurrence to have the electric light fail during the mess hour or at some other critical period, when those officers who possessed candles became quite popular with their fellows. However, these were only incidents in the game, "all in the day's work," and nobody complained either then or afterwards, because it was realized that everyone was doing the best he could and that it was his privilege as well as his duty to help others by being as cheerful and as hopeful as possible.

Gradually the necessary equipment was furnished, which, supplemented by private efforts and the loans and purchases of members of the staff, produced a really effective hospital.

The number of patients in the permanent hospital on September 17, 1917, was 17; on November 30, 1917, they numbered 811; while on March 31, 1918, the base hospital was caring for 910 patients in all lines of medicine and surgery. The maximum number of patients was 9,736 in October, 1918. This rapid increase in the number of patients was mainly due to transfers from the regimental infirmaries. Additional wards were opened and equipped as the exigencies of the service demanded, although the equipment was quite scarce and often insufficient, because Government supplies came in slowly. However, in a few weeks the whole 16 wards of the inner hospital group, and finally many of the outer group, were called into requisition, partly because of the natural increase due to the arrival of the draft, partly because of epidemics, such as tonsillitis, cerebrospinal meningitis, pneumonia, and venereal diseases—the latter especially among the colored troops from Oklahoma.

Following the modified plan of the base-hospital group, ground was broken for the head surgery hospital at Camp Sherman on September 28, 1917. Perhaps as good an idea as can be formed of the almost marvelous fashion in which the construction and erection of buildings in this camp were carried on is obtainable from the fact that this special building, with its four operating rooms and their surroundings of special chambers for special work, was practically roughed in and completed in its essentials within a space of 10 days. Although, owing to the difficulties of heating and lighting, it was not utilized until the end of October, yet there was soon established a large and flourishing eye, ear, nose and throat clinic.

The reason the laboratories, wards, and operating rooms of the hospital at Camp Sherman were earlier and better equipped than most of the cantonment hospitals lies in the fact that the commanding general, wearying of the continued and persistent excuses which all the medical officers were, of necessity, obliged to offer in explanation of a lack of the implements and appliances needed for their service, and of the constant apologies they were obliged to make not only to the general himself but to visitors and friends, decided upon a radical step. One day he called together the commissioned officers of the base hospital, the chiefs of services and their assistants, and, after telling them that he expected a change in this state of affairs, ordered them to buy at once such instruments and other equipment as would convert the defective hospital into one of the first class. As a result of this order, there were obtained from Columbus, Cincinnati, and other neighboring towns numerous medical and surgical supplies, including a large amount of drugs and other requisites. Four surgical operating rooms received several coats of white enamel paint, numerous pine examination booths were colored a dead black, a few floors were oiled and some of them covered with linoleum of various hues, and windows were decorated with curtains. Unattractive floors were stained, and every necessary appliance that could be had was added to the previous scanty equipment. This emergency equipment undoubtedly enabled the medico-military officials of the head surgery building of the base hospital and, to some extent, the heads of other services, to do much effective work that would have been impossible or further postponed until the necessarily tardy arrival of the Government outfit.

Hospital storehouses were four in number. Three were for medical supplies and one for quartermaster supplies. The buildings were 150 feet long and 24 feet wide, with heat and light. Medical supplies for the cantonment hospital and the organizations of the division, as well as the veterinary and dental supplies for the division, were all kept in these buildings.

Hospital linen was washed at Washington Court House, Ohio, until November 6, 1917, when the camp laundry took over the work; but it was not entirely satisfactory.

The chapel at Camp Sherman base hospital was used for religious purposes; just as frequently, however, it was put to such secular uses as lectures, conferences, and instruction classes of various kinds. Here the clinical society of the hospital first met.

Kitchen wastes were divided into four classes, sorted and sold to contractors. They consisted of (*a*) bones and fats; (*b*) other kitchen garbage; (*c*) cans, bottles, coffee grounds, etc.; (*d*) combustible waste.

The hospital heating plant consisted of eight boilers. Steam and hot-water pipes were carried overhead, insulated. Pipes in the corridors were not covered until late in the winter of 1917 and the heating plant was inadequate. Oil stoves (over 100) were in use throughout the hospital. At one time the coal supply was deficient. One very cold night in February, $1,500 worth of radiators froze and burst.

Electricity was obtained from Chillicothe, Ohio, until November 1, 1917; subsequently, from Columbus. The former supply was uncertain and unsatisfactory, but the latter was excellent.

Manure was collected at a central point, sold to contractors, and loaded on freight cars.

There never was a proper hospital exchange. The one that was in existence was a part of the division exchange system, run on the concession plan, and, as such, was of no appreciable advantage to the hospital.

Buildings were constructed by the Red Cross, the Young Men's Christian Association, and the Knights of Columbus, which formed part of the hospital. In them the entertainment and recreation of both patients and duty personnel were fostered.

Statistical data, United States Army Base Hospital, Camp Sherman, Chillicothe, Ohio, from September, 1917, to July 20, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	......	46	332	1	379	235	4	.....	.....	.....	.....	8	.....	132	......	1,440	......
October	132	93	960	......	1,185	712	7	11	.....	.....	.....	2	.....	453	......	11,996	......
November	453	2,072	68	......	2,593	1,678	8	.....	1	.....	.....	28	.....	878	......	20,686	......
December	878	2,059	88	......	3,025	2,078	15	1	.....	.....	.....	21	.....	910	......	25,615	......
1918.																	
January	910	2,938	107	......	3,955	2,329	17	16	.....	.....	.....	435	2	1,156	......	31,655	......
February	1,156	3,304	232	7	4,699	2,182	13	65	.....	.....	.....	1,235	.....	1,204	......	32,000	......
March	1,204	2,864	171	1	4,240	1,855	34	56	.....	.....	.....	1,158	231	906	......	33,854	......
April	906	2,916	201	......	4,023	1,786	53	45	.....	.....	.....	892	6	1,241	......	35,404	......
May	1,241	2,570	78	5	3,894	1,835	15	112	.....	.....	.....	1	570	1,361	......	42,102	......
June	1,361	1,937	15	2	3,315	1,412	4	61	.....	.....	.....	135	6	1,697	......	38,315	......
July	1,697	3,064	15	7	4,783	2,510	7	96	.....	.....	.....	471	6	1,693	......	50,728	......
August	1,693	3,113	21	15	4,842	2,659	9	127	.....	.....	.....	634	27	1,386	......	48,444	......
September	1,386	4,202	9	14	5,611	1,878	28	141	.....	.....	.....	723	9	2,832	......	41,298	......
October	2,832	6,898	......	6	9,736	5,887	1,056	30	.....	.....	.....	980	17	1,766	......	85,188	......
November	1,766	1,656	38	3	3,463	2,102	31	61	.....	.....	.....	103	12	1,154	......	32,348	......
December	1,154	917	270	6	2,347	1,414	22	32	.....	.....	.....	30	5	844	......	28,953	......
1919.																	
January	844	1,137	1,323	3	3,307	1,829	20	.....	.....	.....	.....	59	29	1,370	......	39,907	......
February	1,370	892	810	8	3,080	1,540	11	15	.....	.....	.....	83	11	1,420	......	40,271	......
March	1,420	677	1,027	19	3,143	1,539	6	8	.....	.....	.....	55	22	1,513	......	42,602	......
April	1,513	787	965	7	3,272	1,658	4	1	.....	1	.....	100	30	1,478	......	43,666	......
May	1,478	600	1,040	10	3,128	1,921	9	8	.....	.....	.....	74	12	1,104	......	44,302	......
June	1,104	452	215	10	1,781	1,117	4	.....	.....	.....	.....	163	6	491	......	23,532	......
July	491	339	103	7	940	457	.....	1	.....	.....	.....	468	14	0	......	9,864	......

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous. (Q M. C., etc.).	Total.	Medical Department.	Miscellaneous. (Q. M. C., etc.).	Total.		
1917.									
September	34	2	....	36	151	....	151	....	....
October	47	3	1	51	304	....	304	35	1
November	65	5	1	71	428	....	428	64	....
December	73	7	1	81	471	....	471	66	1
1918.									
January	75	6	1	82	495	17	512	85	....
February	81	5	1	87	498	17	515	134	....
March	83	4	1	88	516	18	534	116	1
April	100	6	1	107	497	18	515	156	2
May	93	6	1	100	582	18	600	154	1
June	89	5	1	95	669	18	687	130	2
July	83	5	1	89	642	....	642	152	1
August	82	4	1	87	775	....	775	144	1
September	75	5	1	81	905	....	905	183	0
October	94	3	1	98	701	....	701	184	1
November	101	4	2	107	741	....	741	208	1
December	93	4	2	99	749	....	749	167	1
1919.									
January	80	5	6	91	711	....	711	126	1
February	77	5	4	86	694	....	694	137	....
March	76	4	5	85	665	....	665	130	....
April	72	4	5	81	612	....	612	123	....
May	56	3	6	65	548	....	548	122	....
June	43	2	7	52	354	....	354	106	....
July	32	3	4	39	251	....	251	28	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP ZACHARY TAYLOR, KY.[a]

The base hospital at Camp Zachary Taylor was located about one-half mile from the center of the camp, in Jefferson County, Ky., and about 5 miles southeast from the center of the city of Louisville. The terrain of the region is for the most part flat or slightly rolling. The land was largely under cultivation when it was taken over for cantonment purposes, but there were scattered wooded areas for a distance of from one-half to 3 miles in all directions. The soil is clayey, mixed with loam, as a result of the truck gardening which had been practiced. The soil readily pulverizes in dry weather and becomes converted into a tenacious, heavy mud after rains. Before the permanent system of roadways for the camp had been completed there was much inconvenience from both dust and mud; and even subsequent to the provision of the good roadways the dust readily carried from the camp drill grounds, one eighth mile from the hospital.

The climate of this part of Kentucky is decidedly pleasant; the winters are mild, the falls and springs are delightful, and the summers, though hot, are quite bearable.

The buildings in the camp were made ready for occupancy before work on the hospital was concentrated. While the hospital was being constructed, temporary use was made of barracks, which had been provided for a portion of the 84th Division. The first use of these barracks was made on August 20, 1917, and they were temporarily occupied until September 13, 1917. There were no emergency hospitals, but a first-aid station was established in one of the barracks of the 84th Division, where, under the direction of a civilian physician employed by the construction company, emergency treatment was given laborers engaged in construction work.

On September 13, 1917, the first of the buildings of the base hospital was occupied, and thereafter, as the necessity arose, additional wards were filled. The hospital as originally planned was completed on November 25, 1917, or at a time which was approximately three months after that when the buildings of the cantonment had been completed. In design, the hospital as it was originally constructed conformed to the plans furnished by the War Department. As at other base hospitals planned for the National Army cantonments, subsequent additions were made to augment the bed capacity. These additions included 12 two-story ward barracks; an increased number of barracks for the enlisted men, Medical Department; extra buildings for the officers and nurses; and enlargements of the various messes. There were four main corridors in the hospital, the direction of which was north and south. From these corridors the wards extended at right angles, and at intervals of about 75 feet. In the space between the fourth corridor and the neuropsychiatric pavilion, which had been located 600 feet distant from the fourth corridor, sufficient room remained to permit the erection of the 12 ward barracks. The location of these ward barracks in this area made them an integral part of the hospital, thus obviating all the difficulties incident to a greater separation of this group of convalescent buildings found to be existent at so many of the other base hospitals.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Zachary Taylor, Ky.," by Maj. H. B. McMurdo, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The first officers' quarters provided accommodated but 30. It was therefore necessary to quarter the excess number of officers, on duty at the hospital, in wards until the additional quarters were provided. Similar conditions obtained with regard to the nurses. About April 1, 1918, an addition was made to the existent officers' set of quarters and an additional building was provided. A new set of quarters was also provided for the nurses, to which a later addition was made. With these provisions the quarters for both the medical officers and the nurses were inadequate, and, while the strength of the personnel was at its maximum, it was necessary to house 35 officers in one of the hospital wards and to give up two wards in their entirety to the nurses for quarters.

The general mess was adequate for at least 1,400 patients. The seating capacity of the general mess hall was 880; but, at the height of activities, the average number of patients who ate in the mess hall was 650. The detachment, Medical Department, messed separately. Until the construction of other additional sets of officers' quarters, which was begun April 1, 1918, the medical officers ate in the dining room of the patient officers' ward. Here the space was totally inadequate. Nor was there sufficient room in the officers' mess, as ultimately provided, to permit all officers to eat at one sitting. The nurses' mess was conducted in the set of quarters which had been provided for them.

Properly speaking, there was no hospital storehouse. Medical Department storehouses existed in the camp and they were used as camp and divisional medical supply depots. It was from the camp medical supply depot that supplies for the hospital were obtained from time to time as they were needed.

A chapel was constructed. It was first used for religious purposes during March, 1918. Thereafter, the only purposes to which it was put were for funeral services and formal religious ceremonies.

The water supply was an extension of that provided the camp and formed part of the water supply of Louisville. The source of the water was the Ohio River, which, necessitated careful treatment to render the water potable. This purification treatment comprised sedimentation (enhanced by aluminum sulphate), chlorination, and sand filtration. The results attained were eminenty satisfactory.

The sewerage system of the hospital was also a part of the camp sewerage system, which connected with the city system. Ample toilet facilities existed throughout the hospital.

The heating plant of the hospital was originally a nonreturn steam radiator system. The steam pipes, connecting the central heating plant and the various buildings, were all overhead, suspended on A trestles. During the winter of 1917–18 the advent of severe weather antedated the completion of the heating system, and there was experienced in consequence considerable discomfort and some suffering. During the extremely cold weather of the same winter there was an insufficient amount of steam pressure in the heating system to keep all parts of the hospital comfortably warmed, and it was necessary to close off some mains to insure adequate heating of only a portion of the hospital buildings. To relieve this deplorable condition, as many coal stoves as possible were obtained from the quartermaster of the camp, and to these were added oil stoves, obtained by private contributions, and they were placed in the various buildings. During the summer of 1918 the heating system was converted into a high-pressure return system and the heating plant was enlarged. The results obtained were equivalent to an added efficiency of 50 per cent; and, thereafter, it was possible to effectually maintain a comfortable temperature throughout the hospital.

In common with the camp, the hospital was electrically lighted. The system gave thorough satisfaction at all times.

The disposal of garbage and wastes formed a part of the general system of the camp. Kitchen wastes were deposited in well covered galvanized cans which were removed daily, by a sanitary squad controlled by the quartermaster of the camp, to a central disposal plant whence it was carried away by a civilian under contract. Portions, which were unfit for use as food for hogs, were incinerated.

The hospital exchange began its operations on October 17, 1917. Its stock on hand comprised candies and tobacco, principally, which had been obtained on credit. Its business grew, so that by midsummer, 1918, its capital amounted to $6,000.

In the convalescent ward area the Red Cross and the Young Men's Christian Association constructed recreation buildings for the use of both patients and personnel.

Within each ward there was a phonograph for which there was a supply of choice records. Frequently, entertainments were provided in the patients' mess hall, at first, then in the recreation buildings. For the convalescent patients, such games as baseball, tennis, etc., were fostered.

Statistical data, United States Army Base Hospital, Camp Zachary Taylor, Louisville, Ky., from September, 1917, to July 18, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.														
			By transfer.	Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
September	6	26	389	......	421	195	1	48	......	......	......	3	......	174	......	2,048	......
October	174	857	......	......	1,031	488	6	134	......	......	2	30	6	365	......	9,043	......
November	365	1,400	......	......	1,765	820	7	39	......	......	......	8	134	757	......	15,478	......
December	757	1,529	......	......	2,286	1,287	28	24	......	......	1	1	9	936	......	27,607	......
1918.																	
January	936	1,956	......	......	2,892	1,518	28	31	......	......	......	......	9	1,306	......	27,725	......
February	1,306	1,924	......	......	3,230	1,676	21	48	......	......	......	......	13	1,472	......	26,962	......
March	1,472	2,622	......	......	4,094	2,387	25	77	......	......	......	1	19	1,585	......	34,517	......
April	1,585	2,393	1	......	3,979	2,494	51	34	......	......	......	1	17	1,382	......	34,861	......
May	1,382	2,147	......	......	3,529	1,985	14	36	......	......	......	......	21	1,473	......	31,431	......
June	1,473	1,970	......	......	3,443	1,713	7	54	......	......	......	10	13	1,646	......	19,136	......
July	1,646	2,042	......	......	3,688	1,940	5	142	......	......	......	21	17	1,563	......	34,922	......
August	1,563	2,725	......	......	4,288	2,566	14	132	......	......	......	32	22	1,522	......	38,526	......
September	1,522	6,890	......	......	8,412	2,921	28	118	......	......	......	51	15	5,279	......	51,397	......
October	5,279	10,354	......	......	15,633	1,724	857	52	......	......	......	12	53	3,935	......	155,070	......
November	3,935	2,169	......	......	6,104	4,156	67	87	......	......	......	40	51	1,703	......	54,059	......
December	1,703	1,568	379	......	3,650	2,070	60	51	......	......	......	22	54	1,393	......	55,884	......
1919.																	
January	1,393	1,206	449	10	3,058	1,473	17	9	......	......	......	15	39	1,505	......	25,370	......
February	1,505	1,475	344	15	3,339	1,372	40	19	......	......	......	33	150	1,725	......	27,756	......
March	1,725	1,436	400	20	3,581	1,481	12	18	......	......	......	27	431	1,612	......	31,237	......
April	1,612	1,113	554	......	3,279	1,664	6	7	......	1	......	83	372	1,146	......	31,366	......
May	1,146	647	389	14	2,196	1,174	5	......	......	......	......	85	199	733	......	20,606	......
June	733	479	7	11	1,230	580	4	7	......	......	......	120	86	433	......	12,266	......
July	433	225	......	11	669	306	2	......	......	2	......	63	296	......	......	6,574	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Zachary Taylor, Louisville, Ky., from September, 1917, to July 18, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous. (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous. (Q. M. C., etc.).	Total.		
1917.									
September	32	4	1	37	87	....	87	....	1
October	45	5	1	51	306	....	306	7	1
November	54	2	1	57	299	....	299	65	....
December	62	2	1	65	297	....	297	65	....
1918.									
January	77	3	1	81	325	17	342	67	4
February	89	3	2	94	317	17	334	131	3
March	87	5	2	94	326	18	344	137	3
April	116	4	2	122	267	18	285	138	....
May	104	5	2	111	653	19	672	165	....
June	88	5	1	94	642	19	661	155	....
July	98	5	1	104	861	20	881	166	....
August	81	3	1	85	600	20	620	191	....
September	83	4	1	88	973	19	992	176	2
October	144	4	1	149	1,648	18	1,666	230	2
November	133	4	1	138	821	16	837	234	2
December	103	6	3	112	900	16	916	194	2
1919.									
January	92	5	3	100	819	10	829	154	1
February	83	5	3	91	845	6	851	155	1
March	91	3	6	100	873	5	878	159	1
April	96	3	9	108	726	3	729	141	1
May	76	3	9	88	596	2	598	136	4
June	42	3	7	52	419	1	420	76	1
July	16	1	1	18	219	....	219	50	....

BASE HOSPITAL, CAMP TRAVIS, TEX.[a]

Camp Travis was situated at the northeast portion of San Antonio, Tex., and was contiguous to the military reservation of Fort Sam Houston. Since the general physical characteristics of that locality have been described in connection with the history of the base hospital at Fort Sam Houston, they will not be reiterated.

The site selected for the location of the base hospital at Camp Travis was at the northern extremity of the camp, thus making it the farthest removed activity from San Antonio. It was the most elevated portion of the camp and it was therefore well drained.

The actual organization of the base hospital dates from August 22, 1917; but, as no hospital buildings were ready for occupancy at that time, use was made of the infirmary buildings in the camp. It was not until November 23, 1917, that the wards of the base hospital had been completed and it was upon this date that the hospital was opened.

The plan of the hospital conformed to the original block plan for base hospitals at National Army cantonments. Its capacity was materially increased during the year 1918, by the addition of 12 two-story ward barracks, 2 barracks for the detachment, Medical Department, a large nurses' quarters as well as 4 smaller ones, and increased space in the general kitchen and mess hall.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Travis, Tex.," by Capt. D. S. Childs, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised the official reports from various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The medical officers were quartered in a one-story building which, very early in the history of the hospital, had to be enlarged. Adequate accommodations were never provided the officers, at their maximum number, and the quartering of the excess number in one of the ward barracks, was necessitated. The original set of nurses' quarters was also enlarged, and additional sets were provided.

No storehouse was controlled by the hospital. Supplies were obtained from the medical supply depot which was a part of the activities of the camp.

There were five separate messes in the hospital. The general kitchen was used for the preparation of the food for the patients. Attached to it there was operated a special diet kitchen, in which were prepared the special articles of food for the sick. The mess for the detachment, Medical Department, was located in one of the buildings of the barracks group. The medical officers and the nurses had separate messes located in their respective quarters. There was a fifth mess, maintained in the officers' ward for the patients therein.

A chapel was constructed at the northwestern edge of the hospital group. Besides being used for funeral and church services, it was utilized by the Young Men's Christian Association to provide entertainment and indoor recreation for the members of the detachment, Medical Department.

The water supply of the hospital was a part of that of the camp. Its source was artesian wells, and it required no purification methods.

The sewerage system emptied into the camp sewerage system, which, in turn, emptied into the city sewage disposal system. Each ward of the hospital had a connecting lavatory section, in which there were adequate toilet facilities.

The group of hospital buildings was steam heated. To operate the heating system a central heating plant was provided, which, for the first year, consisted of low-pressure boilers. The experience of the winter 1917–18 amply demonstrated the inefficiency of this method of attempting to heat the buildings. To maintain a sufficient degree of heat in the wards it was necessary to totally disconnect the quarters of the entire personnel from the system. But, even with these drastic measures, it was extremely difficult to heat the buildings of the isolation section. During the midyear of 1918 new high-pressure boilers replaced the old ones, and a return system was provided. Subsequently the heating system was entirely satisfactory.

The hospital was lighted by electricity, the current for which was obtained from San Antonio. The lighting system was very satisfactorily arranged, and it operated with entire success.

A post exchange was operated by the hospital. It began to function in November, 1917, within a short time of the opening of the hospital, and soon was on a very successful basis.

The activities of the Red Cross and the Young Men's Christian Association were so divided that the Red Cross concerned itself principally with the patients and the Young Men's Christian Association with the duty personnel. Both organizations provided buildings in which to carry on their separate activities. There were provided for the personnel opportunities and material for such athletic contests as base ball, running, etc., as well as indoor entertainments. The patients likewise had access to these things.

Statistical data, United States Army Base Hospital, Camp Travis, San Antonio, Tex., from October, 1917, to March, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources. By transfer.	From other sources. Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1917.																	
October	0	5	......	......	5	4	......	......	......	......	......	1	......	......	......	......	......
November	......	3,375	100	......	3,475	1,882	2	......	......	......	......	95	......	1,496	......	16,521	......
December	1,496	4,122	197	5	5,820	3,801	58	64	......	......	......	608	6	1,283	......	44,546	......
1918.																	
January	1,283	4,890	179	12	6,364	2,890	64	44	......	......	......	1,535	16	1,815	......	50,469	124
February	1,815	3,226	84	6	5,131	1,345	34	38	......	......	......	2,593	7	1,110	4	44,011	106
March	1,114	2,394	60	11	3,579	882	23	30	......	......	......	1,293	13	1,338	......	38,028	270
April	1,338	3,565	39	11	4,953	2,049	33	25	......	......	......	1,631	11	1,204	......	38,492	......
May	1,204	3,603	33	13	4,853	1,584	29	45	......	......	......	1,729	14	1,452	......	45,273	......
June	1,452	2,310	20	11	3,793	1,452	11	59	......	......	......	1,162	11	1,098	......	38,964	......
July	1,098	2,920	5	14	4,037	1,577	12	67	......	......	......	926	12	1,443	......	37,121	......
August	1,443	26	2,583	......	4,052	2,577	17	65	......	......	......	100	33	1,260	......	40,379	......
September	1,260	56	2,918	13	4,247	2,449	8	38	......	......	......	131	12	1,609	......	44,091	......
October	1,609	247	11,504	30	13,390	1,856	197	34	......	......	......	7,548	58	3,672	25	146,842	512
November	3,697	84	1,418	13	5,212	1,312	31	16	......	......	......	2,535	17	1,284	17	69,380	525
December	1,301	97	2,017	16	3,431	678	34	21	......	......	......	1,611	20	1,052	15	36,307	177
1919.																	
January	1,067	189	2,215	13	3,484	1,009	13	15	......	......	......	1,462	38	933	14	33,899	565
February	947	148	1,479	9	2,583	1,267	9	17	......	......	......	215	60	1,015	......	24,975	152
March	1,015	111	818	4	1,948	1,098	6	92	......	......	......	56	64	632	......	25,372	28

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1918.				
January	1	10	......	11	October	0	73	0	73
February	8	20	6	34	November	0	21	0	21
March	3	65	83	151	December	0	21	0	21
April	8	157	45	210	1919.				
May	......	......	......	......	January	......	28	......	28
June	......	......	......	......	February	......	28	......	28
July	......	......	......	......	March	2	52	......	54
August	0	16	0	16					
September	0	20	0	20					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
October	30	......	......	30	130	......	130	......
November	40	......	......	40	279	......	279	12
December	44	2	1	47	280	......	280	47
1918.								
January	46	3	1	50	281	......	281	98
February	62	3	1	66	279	15	294	110
March	78	3	2	83	279	18	297	118
April	78	2	2	82	517	18	535	139
May	75	2	3	80	508	18	526	138
June	77	2	1	80	713	18	731	157
July	89	5	1	95	703	18	721	148
August	78	6	1	85	652	18	670	144
September	71	6	1	78	697	17	714	148
October	75	4	1	80	697	18	715	154
November	74	4	2	80	717	18	735	246
December	66	6	2	74	721	17	738	241
1919.								
January	66	7	3	76	700	16	716	189
February	56	6	3	65	578	18	596	126
March	47	7	4	58	524	12	536	116

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

BASE HOSPITAL, CAMP UPTON, N. Y.[a]

The base hospital at Camp Upton, N. Y., was located in Suffolk County, Long Island, 17 miles from Patchogue, the county seat of Suffolk, and about 65 miles east of New York City. It lay inland, about midway between Long Island Sound on the north and the Atlantic Ocean on the south. While the terrain is generally flat in all this section, the hospital buildings were located on the eastern aspect of a rolling incline of about 1 per cent. The soil is a sand loam formation, covered with pine trees of moderate size and a dense, low brush. In dry, windy weather there was much high-flying dust from the cleared areas, and after a rain there was much easily carried mud, though the trouble from the latter was partially overcome by the splendid system of connecting corridors in the hospital.

The climate in this region is temperate, though the winter of 1917–18 was unusually severe. Still, the temperature range is not great, the locality benefiting, as does all this coast region, from its close proximity to the Gulf Stream. On the whole, the climatic advantages are splendid, and the location from that viewpoint was nearly ideal for a general hospital of this type. The hospital site was completely surrounded by wooded areas, which served to protect it from the high winds which occasionally prevailed for short periods.

The roads in and about the hospital, very bad when the first buildings were occupied, were somewhat improved. They consisted partly of cinders, partly of dirt, and partly of tarred macadam. A tarred macadam road connected the main camp with the hospital. All roads leading into the camp from the surrounding country were, until the completion of the military road connecting with Merrick Road at Tangier, Long Island, dirt roads. Their condition during the spring thaw of 1918 is indescribable; and even afterwards, when the ground had dried and settled, they were still obviously very disagreeable, though, of course, negotiable.

The base hospital was organized on September 1, 1917. It was on this date that the first patient was admitted. Previous to this time, 17 patients were given hospital care in a regimental infirmary.

Prior to the construction of the hospital proper, regulation two-story barrack buildings, located in the center of the camp, were used for hospital purposes. One building was used for administration, surgery of the head, a mess for officers, a receiving office; and one building was assigned to each of the following divisions: Medicine, surgery, and genitourinary diseases. Later on, about three weeks prior to moving to the permanent buildings, the number of patients increased so rapidly that it was necessary to utilize another building. During all this time, the base hospital maintained a dispensary and clinic, and treated practically all the ambulatory cases in the whole camp.

The constructing engineers maintained an eight-bed emergency hospital for their employees. In connection with this hospital they also maintained a dispensary, civilian physicians being in attendance. The equipment was very limited and the efficiency of the institution low. It was inspected daily by staff officers of the base hospital under direction of the commanding officer.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Upton, N. Y.," by Col. Harlow Brooks, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The first buildings of the permanent hospital were completed and occupied on November 2, 1917, the evacuation of the old buildings being accomplished in about six hours. At this time, only nine wards were available. These nine wards were fairly well equipped, and the general operating rooms were sufficiently completed to permit emergency surgery.

The officers' quarters contained 56 rooms, some of which were suitable for two men; 22 of the rooms were steam heated. During the winter of 1917–18, toilet and bathing facilities were limited and, at times, a complete failure. However, new toilets, showers, and tubs were installed later, and these, with the hot-water apparatus, increased the comforts very materially. The nurses' quarters were built on the same plan as were those for the officers. Because of the increase in the size of the detachment, Medical Department, it was necessary to construct three additional barracks.

The main mess hall and kitchen for the patients, the mess for the contagious service, that for the neuropsychiatric service, and that for the enlisted personnel, Medical Department, were all under the general supervision of one commissioned officer, who had the necessary number of assistant noncommissioned officers and enlisted men. In the main mess alone, were employed 4 noncommissioned officers, 2 dietitians, 3 cooks, and about 30 enlisted men. In this mess, all ambulant patients, except those from contagious and neuropsychiatric services, were rationed. All other patients, who for any reason were confined to the wards, were provided food rapidly transported on food wagons and trays and kept warm by steaming tables until served.

The general mess was equipped originally to feed 1,000 patients. Subsequently, equipment was added from time to time to keep pace with the increasing capacity of the hospital. Food was served to ambulant patients in the cafeteria style. This manner of serving permitted the seating of 800 patients in the mess hall at one time.

The commissioned personnel maintained their own mess, according to the usual custom. When the hospital was first occupied, the medical officers ate in the main mess hall, being served at hours when the hall was not needed for patients. After about three weeks a separate room became available in the officers' sick ward, and this room was used as a dining room until May 18, 1918, when the mess hall and kitchen in the officers' quarters was completed and occupied.

The hospital did not maintain a separate laundry. All laundry work was done at the immense cantonment laundry, which was completed on December 5, 1917. Prior to that date, the hospital laundry work was done in Brooklyn, N. Y.

A commissioned officer was detailed to the base hospital as medical supply officer for Camp Upton and property officer for the base hospital. Three storehouses, about 120 by 36 feet, were used at first. Later, two additional houses were needed and constructed.

The hospital chapel was never used for religious services. Services for 11 sects were held in the post exchange building, until the completion of the Red Cross building, which was then used for all religious services.

The equipment furnished the hospital in the early days of its organization was not all that could be desired. However, sheets, blankets, mattresses, beds, etc., were sufficient; and while surgical and diagnostic apparatus, drugs, and sera were limited, the nearness of the hospital to New York City and the ease of communication served to provide any special equipment or supplies in any emergency that presented. Patients at no time suffered in any way through lack of care, equipment, or supplies of any sort. Ultimately, the institution was well equipped, and practically all the essential supplies were provided or procurable on short notice.

The water supply was obtained from the same source as that of the main camp. About 3 miles to the west of the camp the Government had sunk 18 deep wells. From these wells the water supply of the hospital and the entire camp was obtained. Four huge tanks of about 850,000 gallons capacity, and located sufficiently high to furnish good pressure to every building on the reservation, were used as a reservoir. The water was abundant in quantity, of an excellent quality and taste, and did not require filtration, sedimentation, or treatment of any sort.

Each ward on the inner corridors had its own individual lavatory, shower, and bathtub. On the outside corridors and between each two wards a larger lavatory with shower and tub was installed. The sewerage system of the hospital unit was connected with the sewerage system of the main camp, all sewage being conveyed to a point about 3 miles east of camp, where it was disposed of by an immense septic tank and sand filters.

The kitchen waste and all hospital garbage was at first destroyed in incinerators. Later, all kitchen waste of edible value, together with all similar waste from the wards and the entire camp, was sold by the Government to civilians for use as food for hogs. All useless waste of the hospital was incinerated.

All buildings of the hospital were heated from a central heating plant, located across the road from the rectangle, to the west of the main mess hall. The heating plant was equipped with 8 boilers, 2 of which were high pressure and 6 low pressure. It was located on the highest ground in the vicinity, and this obviously prevented any return flow. It was necessary, therefore, constantly to pump cold water into the boilers, the quantity needed in cold weather amounting to thousands of gallons daily. The cost of maintenance was thus tremendously increased and the efficiency of the plant correspondingly diminished. Several errors were made in distribution of pipe lines, which also materially diminished the plant efficiency, but these were later partly corrected. Additional boilers were installed, and the system was changed into a high-pressure return system.

Electricity for lighting the hospital was furnished by the Northport Electric Co., 14 miles distant. This company also furnished light and power to the entire camp. The current was ample and was at all times eminently satisfactory.

The hospital post exchange was opened late in November, 1917. A stock of cigars, tobacco, cigarettes, cakes, candy, etc., was kept, together with a few of the minor necessities. It was at first run on a more pretentious basis, but later was kept open only during late afternoon and early evening hours, and was run purely for the accommodation of the enlisted personnel, Medical Department.

The work done by the Young Men's Christian Association was very beneficial to patients. It freely furnished books, periodicals, stationery, religious pamphlets, and religious advice to patients. Religious services were conducted and entertainments provided. The organization was also active in encouraging and promoting athletic games.

The American Red Cross provided a beautiful building, connecting by covered corridor with the ward corridors, so that it might be conveniently reached in all weather. The building was used for the recreation of convalescent patients. Moving pictures, vaudeville and musicales, and other forms of entertainment were provided. Perhaps the most important work of this organization was its civilian relief work; ward workers were constantly soliciting and investigating the status of dependents of soldiers and much suffering and privation was mitigated or wholly relieved.

A gymnasium was available to the enlisted personnel for indoor sports. For outdoor athletics, a baseball field and tennis courts were provided.

Statistical data, United States Army Base Hospital, Camp Upton, N. Y., from September, 1917, to July 18, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September	......	426	......	1	427	262	2	......	......	......	......	......	3	160	......	2,075	......
October	160	811	......	......	971	708	......	......	......	......	......	2	7	254	......	6,808	......
November	254	706	......	......	960	650	4	1	......	......	......	1	11	293	......	9,026	......
December	293	1,330	2	1	1,626	1,044	4	......	......	......	......	......	13	565	......	20,849	......
1918.																	
January	565	1,776	8	6	2,355	1,369	12	......	......	......	......	2	19	953	......	25,960	......
February	953	1,239	7	2	2,201	1,446	9	......	......	......	......	......	7	739	......	24,354	......
March	739	2,253	......	......	2,992	2,029	39	......	......	......	......	......	6	918	......	30,523	......
April	918	1,691	......	......	2,609	1,435	28	......	......	......	......	21	13	1,112	......	37,240	......
May	1,112	1,570	......	......	2,682	1,527	16	......	......	......	......	51	3	1,085	......	36,076	......
June	1,085	1,425	......	......	2,510	1,235	12	......	......	......	......	61	1	1,201	......	39,933	......
July	1,201	1,566	......	......	2,767	1,287	8	......	......	......	......	24	31	1,417	......	47,105	......
August	1,417	1,469	......	......	2,886	1,311	11	......	......	......	......	18	28	1,518	......	50,473	......
September	1,518	2,676	......	......	4,194	2,121	93	......	......	......	......	29	38	1,913	......	63,507	......
October	1,913	1,940	......	......	3,853	2,105	320	......	......	......	......	6	54	1,368	......	45,385	......
November	1,368	1,203	......	......	2,571	1,570	28	......	......	......	......	19	169	785	......	36,838	......
December	785	695	508	......	1,988	1,291	30	......	......	......	......	2	59	606	......	23,434	......
1919.																	
January	606	823	1,581	315	3,325	1,585	14	......	......	......	......	31	611	1,084	......	34,211	......
February	1,084	879	444	577	2,984	1,148	12	39	......	......	......	37	554	1,194	......	34,167	......
March	1,194	1,093	335	456	3,078	1,364	21	59	......	......	......	52	425	1,157	......	27,104	......
April	1,157	866	155	279	2,457	1,134	6	41	......	......	......	104	314	858	......	20,790	......
May	858	1,155	333	253	2,599	1,193	10	37	......	......	......	56	331	972	......	22,258	......
June	972	576	177	294	2,019	932	3	36	......	......	......	95	230	723	......	17,456	......
July	723	396	86	35	1,240	493	1	19	......	......	......	660	67	......	......	8,519	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office, and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Upton, N. Y., from September, 1917, to July 18, 1919, inclusive—Continued.

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
October	68	22	31	121	September	10	21	....	31
November	68	25	38	131	October	....	30	....	30
December	32	14	6	52	November	....	30	....	30
1918.					December	....	28	....	28
January	45	9	6	60	1919.				
February	87	12	8	107	January	....	82	....	82
March	90	10	6	106	February	....	82	....	82
April	115	37	10	162	March	....	103	....	103
May	85	12	8	105	April	....	103	....	103
June	97	25	10	132	May	....	99	....	99
July	18	17	....	35	June	....	99	....	99
August	10	21	....	31	July	....	49	....	49

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	41	....	1	42	146	....	146	....
October	66	....	1	67	196	....	196	....
November	84	....	1	85	214	....	214	16
December	92	....	2	94	325	....	325	46
1918.								
January	90	....	2	92	339	....	339	77
February	90	....	1	91	333	....	333	96
March	89	....	1	90	436	17	453	101
April	113	....	1	114	519	17	536	144
May	92	....	1	93	624	17	641	150
June	88	....	1	89	730	17	747	128
July	96	1	1	98	676	18	694	152
August	83	2	1	86	597	19	616	140
September	105	2	3	110	843	19	862	158
October	102	3	2	107	854	18	872	267
November	99	2	1	102	786	18	804	327
December	73	7	2	82	891	16	907	225
1919.								
January	78	8	2	88	587	14	601	161
February	72	5	4	81	589	12	601	138
March	77	8	5	90	640	11	651	132
April	71	6	6	83	600	7	607	137
May	54	7	7	68	824	2	826	128
June	47	5	8	60	445	1	446	86
July	36	2	4	42	214	3	217	57

BASE HOSPITAL, CAMP WADSWORTH, SPARTANBURG, S. C.[a]

On the outskirts of Spartanburg, and at a point 19 miles due east of Camp Sevier, the site for Camp Wadsworth was chosen. The physical characteristics of the place were much the same as they were at Camp Sevier, for a description of which the reader is referred to the historical sketch of the base hospital at Camp Sevier.

The portion of the camp which was selected for the site of the base hospital was at its southwest corner. This site was adjacent to the National Highway from Spartanburg, but was farthest removed from the railroads.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Wadsworth, S. C.," by Maj. W. Barndollar, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

Prior to the construction of the hospital, sick of the division, mobilized at Camp Wadsworth, were hospitalized in the field hospitals attached to the division, and the necessary operative surgery was performed in the civil hospitals at Spartanburg by the personnel which had been provided for the base hospital.

On September 1, 1917, the officers' quarters of the base hospital were completed and occupied. On October 8, 1917, the first ward of the hospital group was ready for occupancy. On this date, the base hospital was formally organized and the completed ward was put to use in the care of patients. Thereafter, so rapidly as the wards were constructed they were utilized, the last one being made available on December 18, 1917.

The officers' quarters when first used had neither water supply nor toilet facilities, and were inadequate for the personnel. Subsequent additions were made and the requisite utilities were supplied. The original nurses' quarters were, likewise, inadequate; there were accommodations for but 83 nurses. An additional set of nurses' quarters was provided in which there were 36 bedrooms, each sufficiently large to accommodate two nurses in an emergency. The mess hall of the original set of nurses' quarters was used as a dormitory, after the later set of quarters in which there was a larger mess hall had been made available.

Six barracks were provided for the enlisted men, Medical Department. The normal capacity of each of these barracks was 40 men. At one time in the history of the hospital there were 400 enlisted men of the Medical Department, and it was necessary to place 55 of them in each barrack and to house the remainder in the building which had been provided for a laundry. When the two-story ward-barracks were erected, sufficient space in them was taken to provide dormitories for the excess number of enlisted men.

At the base hospital six separate messes were conducted. These were the general mess for the enlisted patients, a mess for the isolation wards, an officer patients' mess, a mess for the detachment Medical Department, a nurses' mess, and a medical officers' mess. The general mess was at first inadequate to properly feed the large number of patients in hospital. As at other base hospitals, both increased space and equipment were provided, so that, with the use of the cafeteria style of feeding, it was ultimately possible to prepare food for and to feed, within a reasonably short period of time, 1,500 patients.

The medical supply depot, situated on the grounds of the base hospital, consisted of four warehouses, 155 by 25 feet, with two small rooms, 8 by 12 feet, in each building, one at each end. Only one of the buildings was provided with sufficient shelving. There was no shelving in the other buildings.

The hospital laundry was handled at the supply depot, where it was exchanged daily for soiled linen from the various departments of the hospital. It was called for and delivered to the agent of the Asheville Laundry Co., who, in turn, delivered it to the express company at Spartanburg, for shipment to Asheville, N. C., where it was laundered and then returned. This process required an average of five days, but it was not possible to get the work done at a place nearer than Asheville.

The hospital chapel was first used for religious purposes April 7, 1918. It was thereafter used regularly each week for both the Protestant and Catholic services. It was also used as a hospital library, and frequently as a recreational and amusement hall, and proved to be very popular and helpful to the men of the detachment, and to the patients in the hospital.

The water supply of the base hospital was a part of the camp's water supply which was obtained from Spartanburg. There were two sources for the city's supply of water, namely, Scully Creek and Lamson Falls. From these mountain streams the water was piped to a covered reservoir, 1½ miles from the city, whence it was distributed. The quantity of the water was adequate, and its quality was so good as to require no methods of purification.

No sewerage system was originally provided for the hospital. In its absence, pit latrines were used for the disposal of excreta, and surface drainage removed water from the baths. On February 5, 1918, a sewerage system was opened. Connected with the sewerage system there were two septic tanks, one for the main group of hospital buildings and the other for the isolation wards.

Until the sewerage system was installed all liquid wastes from the kitchens were evaporated in Guthrie incinerators. Thereafter it was discharged into the sewerage system. Solid garbage was removed by civilian labor.

No heating facilities were at first provided for the hospital. After the advent of freezing weather in the fall of 1917, small sheet-iron, wood-burning stoves were installed in the buildings. These stoves proved very unsatisfactory and they were replaced by cast-iron stoves, two for each ward. These cast-iron stoves in time were found to be ineffective and were replaced by an equal number of hot-air furnaces. At the time of the installation of the hot-air furnaces facilities for regulating the ventilation of the wards—to conserve the heat—and beaver-board lining for ceilings and walls were provided. Following these improvements the temperature of the wards was more regularly maintained at a comfortable degree.

The hospital, in common with the buildings of the camp, was electrically lighted. Current for the lighting system was obtained from a public utility company of Spartanburg. The service was uniformly good.

The exchange of the hospital was opened October 8, 1917. Local merchants readily extended sufficient credit to permit a small beginning with such things as cigars, cigarettes, and candies. In the spring of 1918 the value of the stock increased to approximately $10,000. A restaurant was opened for a period of about two months and though a splendid paying feature, was closed for lack of sufficient space. A seven-chair barber shop was conducted and there was a shoe and a tailor shop connected with the exchange.

The Red Cross conducted a "hospital service" department after February 18, 1918. In May, 1918, their convalescent house was completed and opened.

Facilities for the recreation of both patients and personnel at the hospital were provided by the Red Cross and the American Library Association.

The base hospital at Camp Wadsworth was designated "General Hospital No. 42" on March 18, 1919. On March 24 it was formally opened as a general hospital for the purpose of treating patients suffering from tuberculosis whose homes were in the southeastern portion of the United States.

The authorized bed capacity of the hospital was reduced from 1,630 to 1,000, and as this size institution it continued to function until October 1, 1919, when it was formally closed and abandoned.

Statistical data, United States Army Base Hospital, Camp Wadsworth, Spartanburg, S. C., from October 8, 1917, to October 1, 1919, inclusive.[a] [b]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
October	......	338	129	6	473	195	1	.....	.....	.....	.....	.....	.....	275	2	3,951	......
November	277	838	142	......	1,257	421	3	2	.....	.....	.....	.....	7	824	......	11,922	......
December	824	903	104	11	1,842	1,012	5	18	.....	.....	.....	1	14	789	3	23,386	50
1918.																	
January	792	957	94	6	1,849	986	15	21	.....	.....	.....	5	1	817	4	23,258	74
February	821	911	42	11	1,785	1,010	3	25	.....	.....	.....	4	9	733	1	19,357	113
March	734	1,213	57	7	2,011	1,185	6	.....	1	15	.....	3	8	793	......	22,547	......
April	793	1,629	48	......	2,470	1,590	27	10	1	.....	.....	8	4	830	......	27,276	......
May	830	1,525	12	11	2,378	1,392	4	3	2	.....	.....	22	24	929	2	25,579	62
June	931	1,788	3	14	2,736	1,631	7	14	1	.....	.....	37	20	1,024	2	29,437	60
July	1,026	1,153	6	......	2,185	1,061	6	4	.....	.....	.....	79	17	1,008	10	26,349	144
August	1,018	2,342	1	......	3,361	2,168	10	4	1	.....	.....	25	12	1,135	6	29,522	96
September	1,141	1,520	......	1	2,662	1,378	6	7	1	.....	.....	22	17	1,231	......	26,672	14
October	1,231	3,153	......	9	4,393	2,829	79	12	.....	.....	.....	4	10	1,459	......	43,578	......
November	1,459	1,553	49	11	3,072	2,003	82	38	.....	.....	.....	16	8	925	......	26,165	1
December	925	385	39	8	1,357	971	21	26	2	.....	.....	5	8	323	1	16,871	54
1919.																	
January	324	240	145	10	719	472	5	14	1	.....	.....	13	11	203	......	7,732	19
February	203	147	316	7	673	210	1	3	.....	.....	.....	23	7	429	......	8,368	9
March	429	92	597	3	1,121	156	5	10	1	.....	.....	37	1	911	......	36,440	......
April	911	23	140	5	1,079	186	11	9	.....	.....	.....	177	30	666	......	27,078	......
May	666	17	433	8	1,124	232	13	9	2	.....	.....	62	24	782	......	23,634	......
June	782	26	301	12	1,121	370	18	39	.....	.....	.....	97	24	573	......	20,062	......
July	573	21	129	8	731	146	22	59	.....	8	.....	126	8	360	2	13,596	45
August	362	26	64	21	473	72	19	48	.....	3	.....	99	22	210	......	7,445	......
September	210	5	12	4	231	22	13	61	3	1	.....	129	1	1	......	4,065	1
October	1	......	......	......	1	.....	.....	.....	.....	.....	.....	1	.....	.....	......	4	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
June	2	3	....	5	February	3	6	....	9
July	2	4	....	6	March	3	7	....	10
August	2	4	....	6	April	3	7	....	10
September	3	10	....	13	May	3	9	....	12
October	3	20	....	23	June	4	12	....	16
November	3	20	....	23	July	5	33	....	38
December	3	16	....	19	August	4	14	....	18
					September	4	14	....	18
1919.					October	....	2	....	2
January	3	7	....	10					

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] From March 24 to end of period considered, this hospital was General Hospital No. 42.

Statistical data, United States Army Base Hospital, Camp Wadsworth, Spartanburg, S. C., from October 8, 1917, to October 1, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
October	31	2	2	35	124	10	134	10
November	49	2	1	52	418	11	429	48
December	52	2	1	55	383	11	394	66
1918.								
January	53	2	1	56	387	15	402	66
February	55	2	1	58	375	15	390	79
March	63	3	1	67	399	19	418	78
April	79	3	1	83	401	19	420	115
May	74	3	1	78	420	19	439	119
June	72	2	1	75	556	19	575	105
July	73	2	6	81	589	19	608	112
August	57	3	7	67	598	18	616	106
September	53	4	6	63	668	20	688	128
October	53	5	6	64	587	20	607	134
November	59	5	6	70	586	22	608	113
December	57	6	8	71	648	27	675	99
1919.								
January	36	6	8	50	492	21	513	54
February	34	6	6	46	393	19	412	38
March (General Hospital)	36	7	3	46	463	38	501	60
April	39	6	3	48	467	36	503	83
May	40	6	6	52	461	6	467	79
June	44	8	6	58	437	1	438	80
July	37	7	9	53	404	....	404	78
August	29	5	9	43	277	....	277	74
September	8	5	6	19	76	....	76	57
October	8	5	6	19	....	....	....	....

BASE HOSPITAL, CAMP WHEELER, MACON, GA[a]

Camp Wheeler was situated in Bibb County, Ga., approximately 5 miles to the southeast of Macon, the county seat. The base hospital was located on the western side of the camp on high ground that had excellent natural drainage in all sections. Much of the ground within the hospital inclosure had been fertilized, plowed, and made into truck gardens. The soil was quite sandy, and though readily pulverized in dry weather, giving rise to easily carried dust, it did not form tenacious mud after rains.

The climate of this region is fairly equable. The summers are quite hot, but the winters are not rigorous. There is very little snow.

The surroundings of the hospital were satisfactory from a sanitary viewpoint. To the west of the hospital area there was a large swamp, but this was drained and its menace as a malarial breeding place was thus removed.

On September 1, 1917, the first National Guard troops of the division began arriving. The Florida Field Hospital, which was one of the units of the division, was utilized to establish a camp hospital. This organization used its own tentage and supplies and for additional material drew on the supplies which had arrived for the base hospital. At this time work on the buildings for the base hospital had not been begun. Work on the base hospital (a 500-bed unit), was begun about September 10, and was rapidly pushed. By October 30 it had been about half completed, with perhaps 10 buildings that could have been occupied. The camp hospital was expanded by the addition of more tentage and was continued in use until October, 1917, when eight single wards of the base hospital were opened for patients.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Wheeler, Ga.," by Lieut. Col. J. H. Stearns, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The plan of the base hospital followed the standard plans furnished by the War Department for base hospitals of National Guard camps.

For the original number of officers on duty at the hospital, the quarters constructed for them were adequate, but when this personnel was increased no additional quarters were provided and the excess number of officers were housed in convalescent ward barracks or in tents. For the nurses several buildings were constructed as quarters. There were two one-story buildings, type E, and one single building. For the student nurses a ward barrack was used for quarters. For the enlisted men there were 2 single barracks with a capacity of 50 men each and 2 ward barracks. These facilities were inadequate for the maximum number of enlisted men on duty at the hospital and it was necessary to use 60 pyramidal tents to house the excess number.

All the duty personnel and all the ambulatory patients were fed in the general mess. The cafeteria system was used for feeding the ambulatory patients and enlisted personnel, and the entire operation of the mess was very satisfactory.

Three small buildings were used for the storage of both the supplies for the base hospital and the supplies for the division in training in the camp. This space was inadequate at all times.

A laundry building was constructed, but as no equipment was supplied for it the laundry work was done by a commercial company in the city of Macon.

All of the buildings of the hospital were heated by means of stoves. During 1918, small water heaters were installed in penthouses adjacent to the wards for the purpose of heating hot water for baths. For heating the tents which were used to quarter a portion of the detachment, Medical Department, Sibley stoves were used.

The base hospital, in common with the camp, was lighted by electricity, which was obtained from Macon. The service, because the current was subject to frequent interruptions, was not entirely satisfactory.

The water supply of the hospital was a part of the camp supply, which in turn was obtained from Macon. The source of the supply was Ocmulgee River, and since the water was contaminated it was treated by sand filtration and chlorination.

When it was determined, during the year of 1917–18, that certain of the base hospitals at National Guard camps should have a sewerage system, one was provided at the base hospital at Camp Wheeler. After its installation, which was effected about March 1, 1918, it was connected with the main sewer of the city of Macon. Prior to the installation of the sewerage system, pit latrines had to be used and they were very unsatisfactory.

Guthrie incinerators were used for the disposal of liquid wastes before the sewerage system had been installed, and at that time garbage was collected by a civilian, under contract, and removed by him. During 1918 the garbage was collected and properly disposed of by the conservation and reclamation department of the camp.

On September 12, 1917, a post exchange was opened, its stock having been obtained on credit. It was operated very satisfactorily, for at the end of the year 1917, after paying dividends amounting to over $3,000, there was a cash balance on hand of about $6,500.

Both the Young Men's Christian Association and the American National Red Cross constructed buildings for the entertainment and recreation of those at the hospital. In the Young Men's Christian Association building, intended primarily for the duty personnel of the hospital, various entertainments were given, including moving pictures. On Sundays religious services were held. In the Red Cross building, likewise, entertainments were given. In this building there was a limited number of rooms which were available for the friends and relatives of the seriously ill patients in the hospital. Before either of these annexes to the hospital had been provided, one of the barracks for the enlisted men had been converted into a recreation room. This room was very well equipped with furniture; a library was provided as well as various means of indoor entertainment. Outdoor games such as baseball, football, basket ball, etc., were conducted in season, for both patients and duty personnel.

Statistical data, United States Army Base Hospital, Camp Wheeler, Macon, Ga., from September, 1917, to March 10, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1917.																	
September		2			2										2		
October	2	1,302			1,304	566	1						3	734		7,990	
November	734	3,855			4,589	3,526	105						14	944		38,613	
December	944	3,206			4,150	2,668	87	4				222	12	1,157		37,438	
1918.																	
January	1,157	3,540			4,697	3,510	45	5				183	29	925		34,738	
February	925	1,788			2,713	1,849	21	6				90	16	731		24,089	
March	731	1,242			1,973	1,254	15	1				3	20	680		22,839	
April	680	2,386			3,066	2,288	28						14	736		28,412	
May	736	1,045			1,781	1,031	12	1				1	9	727		23,616	
June	727	1,104	91		1,922	1,012	13					17	12	868		23,128	
July	868	1,176			2,044	1,250	9	1				45	5	734		26,913	
August	734	1,727			2,461	1,523	22	2			1	4	19	890		24,362	
September	890	1,300			2,190	1,634	19	10				27	8	492		19,823	
October	492	2,714	2		3,208	2,002	70	15				16	9	1,096		24,824	
November	1,096	1,558			2,654	1,955	83	6				4	5	601		24,382	
December	601	382			983	530	8	3				3	2	437		14,476	
1919.																	
January	437	256			693	361		2				2	12	316		12,074	
February	316	124			440	305	1	5				7	3	119		4,933	
March	119	5			124	84		1				39				508	

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1917.					1918.				
October	3			3	July	20	8		28
November	3			3	August	50	10		60
December	46	9		55	September	4	11		15
					October	41	15		56
1918.					November	20	15		35
January	3	3		6	December	46	9		55
February	3	3		6					
March	3	3		6	1919.				
April	3	3		6	January	38	19		57
May	12	8		20	February	6	13		19
June	12	8		20	March	6	9		15

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Base Hospital, Camp Wheeler, Macon, Ga., from September, 1917, to March 10, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1917.								
September	22	----------	----------	22	127	----------	127	----------
October	40	----------	----------	40	123	----------	123	10
November	57	----------	----------	57	280	----------	280	87
December	62	----------	----------	62	280	----------	280	77
1918.								
January	63	----------	----------	63	276	13	289	75
February	69	----------	----------	69	283	13	296	80
March	78	----------	1	79	277	20	297	79
April	74	----------	1	75	284	20	304	84
May	61	2	1	64	285	21	306	104
June	56	2	1	59	289	20	309	101
July	69	2	1	72	374	21	395	99
August	65	2	1	68	357	21	378	92
September	59	4	1	64	582	20	602	105
October	57	5	1	63	502	20	522	107
November	58	3	1	62	501	17	518	116
December	58	3	1	62	461	14	475	106
1919.								
January	33	2	1	36	414	14	428	104
February	19	2	1	22	259	10	269	34
March	1	----------	1	2	1	----------	1	----------

TABLE 22.[a]—*Consolidated statistical data (sick and wounded, and strength of personnel) at United States Army camp hospitals.*[b]

Hospital.	Period operated.		Admissions.			Dispositions.			Maximum monthly number of patients treated.	Minimum monthly number of patients treated.	Average monthly number of personnel on duty.							
											Officers.			Enlisted.				
	From—	To—	From command.	Otherwise.	Total.	Returned to duty.	Died.	Otherwise disposed of.			Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M., etc.).	Medical Department.	Miscellaneous (Q. M., etc.).	Nurses.	Aides and workers.	Other civilian employees.
Camp Bartlett, Westfield, Mass.	August, 1917	November, 1917	7	644	651	493	5	153	339	65	10	......	......	50	......	......	......	......
Camp John H. Beacom, Calexico, Calif.	April, 1917	December, 1919	878	246	1,124	838	2	284	149	3	2	......	......	10	......	......	......	......
Camp Hospital, Fort Bliss, Tex.	do	April, 1917	88	......	88	41	......	47	88	88	2	......	......	7	......	......	......	......
Camp Hospital experimental plant, Cleveland, Ohio.	August, 1918	March, 1919	247	72	319	241	2	76	133	4	......	......	......	......	......	......	......	......
Camp Bowie, Fort Worth, Tex.	July, 1919	August, 1919	20	76	114	39	......	57	85	29	18	2	2	63	......	10	......	......
Camp Bragg, N. C.	August, 1919	December, 1919	53	145	14	159	76	4	6	4	......	......	......	......	......	......	......	......
Fort Clark, Tex.	May, 1917	do	2,658	25	2,683	2,517	22	139	257	10	......	......	......	......	......	......	......	......
Camp Hospital, Camp Colt, Gettysburg	April, 1918	November, 1918	65	1,728	1,793	1,132	161	500	517	25	22	1	......	113	......	8	......	......
Camp Cody, N. Mex.	April, 1917	September, 1917	99	77	202	131	3	43	137	10	3	1	......	39	......	......	......	......
Camp Furlong, Camp Hospital, Columbus, N. Mex.	do	December, 1919	265	6,542	6,807	4,567	82	2,158	453	71	5	......	1	36	2	2	......	......
Camp Custer, Battle Creek, Mich.	April, 1919	do	1,174	1	2,410	1,301	3	473	983	50	15	2	2	107	13	17	......	......
Camp Hospital, Allentown, Pa.	June, 1917	March, 1919	6,691	1,778	8,469	6,616	39	1,814	906	1	......	......	......	......	......	......	......	......
Camp Hospital, Del Rio, Tex.	April, 1917	December, 1919	1,454	1,463	2,917	1,927	19	971	308	14	5	......	......	39	......	......	......	......
Camp Devens, Ayer, Mass.	August, 1919	do	570	27	1,132	640	2	105	409	94	12	1	2	131	......	16	......	......
Camp Dix, N. J.	July, 1919	do	2,977	1,451	7,538	3,893	8	517	1,760	1,045	24	2	2	301	10	57	......	......
Camp Dodge, Iowa	July, 1917	September, 1917	......	18	33	17	......	1	......	......	......	......	......	......	......	......	......	......
Camp Hospital, Douglas, Ariz.	April, 1917	December, 1919	783	17,052	17,836	10,755	145	6,936	1,315	135	16	......	......	117	......	24	......	......
Eagle Pass, Tex.	April, 1919	do	35	292	506	201	4	38	75	41	......	......	......	......	......	......	......	......
Edgewood, Md.	July, 1918	do	4,139	75	6,509	3,874	71	279	2,137	6	......	......	......	......	......	......	......	......
Camp Eustis, Va.	May, 1918	September, 1918	631	8	739	480	3	156	288	345	......	......	......	......	......	......	......	......
Camp Hospital, Fishermans Island, Va.	April, 1917	January, 1919	262	18	300	238	......	62	30	4	1	......	......	5	......	......	......	......
Camp Fremont, Calif.	July, 1917	January, 1918	174	232	481	309	......	54	206	24	......	......	......	......	......	......	......	......
Camp Hospital, Gettysburg, Pa.	June, 1917	December, 1917	28	1,533	1,561	957	3	601	369	26	7	......	......	53	......	......	......	......
Camp Gordon, Ga.	July, 1919	December, 1919	14,722	595	15,317	5,097	276	10,661	6,539	1,840	87	6	4	673	12	200	......	......
Camp Grant, Ill.	do	do	85	1,297	2,261	1,240	6	402	321	130	......	......	......	......	......	......	......	......
Camp Hancock, Ga.	March, 1919	May, 1919	6	66	132	30	......	42	70	62	4	......	1	35	......	1	......	......
Camp Hospital, Camp Hill, Newport News.	November, 1917	December, 1918	84	3,124	3,208	2,019	10	1,179	780	77	4	......	......	36	......	......	......	......
Camp Hospital, Camp Holabird, Md.	February, 1918	December, 1919	4,410	756	5,166	3,294	3	1,869	782	16	10	......	......	45	......	1	......	......
Camp A. A. Humphreys, Va.	March, 1919	do	814	127	1,619	875	18	265	512	65	12	1	1	82	4	9	......	......
Camp Jackson, S. C.	July, 1919	do	913	386	2,028	982	7	211	270	78	11	1	1	69	......	12	......	......
Camp Joseph E. Johnston, Fla.	March, 1919	do	26	5	54	34	......	12	21	1	3	1	......	4	......	......	......	......
Camp Kearny, San Diego, Calif.	April, 1919	do	532	1,097	3,400	875	10	1,292	1,144	26	18	2	2	120	9	21	......	......
Camp Hospital, Camp Kendrick, Lakehurst, N. J.	October, 1918	March, 1919	222	15	237	133	1	103	101	7	4	......	......	16	......	......	......	......

[a] Compiled from monthly returns, and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] During the year 1919 many base hospitals were changed in designation to camp hospitals. With the same personnel and the same equipment these hospitals performed the same class of work formerly done as base hospitals. For this reason this consolidated numerical representation is inserted here.

TABLE 22.—*Consolidated statistical data (sick and wounded, and strength of personnel) at United States Army camp hospitals*—Continued.

Hospital.	Period operated.		Admissions.			Dispositions.			Maximum monthly number of patients treated.	Minimum monthly number of patients treated.	Average monthly number of personnel on duty.							
											Officers.			Enlisted.				
	From—	To—	From command.	Otherwise.	Total.	Returned to duty.	Died.	Otherwise disposed of.			Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M., etc.).	Medical Department.	Miscellaneous (Q. M., etc.).	Nurses.	Aides and workers.	Other civilian employees.
Camp Henry Knox, Stithton, Ky.	December, 1918	December, 1919	1,785	878	2,663	1,821	26	816	601	84	12	......	......	72	......	8	......	......
Camp Lee, Petersburg, Va.	August, 1919	do	890	29	1,648	1,027	6	122	351	131	13	2	1	94	2	79	......	......
Camp Lewis, Wash.	do	do	657	1	1,244	585	1	217	382	173	14	2	3	89	1	13	......	......
Llano Grande, Tex.	April, 1917	May, 1917	10	99	109	61	......	48	57	52	......	......	......	......	......	......	......	......
Camp MacArthur, Waco, Tex.	March, 1919	May, 1919	91	......	123	80	1	10	82	3	......	......	......	......	......	......	......	......
Camp McClellan, Anniston, Ala.	July, 1919	December, 1919	11	30	50	13	1	28	19	3	1	......	1	6	......	......	......	......
Fort McIntosh, Laredo, Tex.	April, 1917	January, 1918	30	944	1,337	966	5	38	218	79	......	......	......	......	......	......	......	......
McAllen, Tex.	do	May, 1917	27	43	70	46	......	24	47	23	2	......	......	9	......	......	......	......
Marfa, Tex.	do	December, 1919	2,420	4,161	6,581	3,393	36	3,152	389	117	12	......	......	63	......	3	......	......
Camp Meade, Admiral, Md.	July, 1919	do	2,085	57	3,642	2,152	11	272	1,024	428	12	2	1	143	3	25	......	......
Army Reserve Depot, New Cumberland, Pa.	October, 1918	October, 1919	895	175	1,070	849	35	186	265	1	......	4	......	15	1	......	......	......
Army Supply Base, Norfolk, Va.	September, 1918	December, 1919	1,076	27	1,103	1,039	12	25	259	23	......	8	......	58	1	......	......	......
Reserve Officers' Training Camp, Camp Warden McLean, Fort Oglethorpe, Ga.	do	April, 1918	831	89	920	757	......	163	165	1	......	......	......	......	......	......	......	......
Small Arms Firing School, Camp Perry, Ohio	April, 1918	October, 1918	515	193	708	476	4	228	143	1	5	......	......	20	......	......	......	......
General Supply Ordnance Depot, Pig Point, Va.	December, 1917	December, 1919	890	293	1,183	752	......	431	341	2	3	......	......	10	......	......	......	......
Camp Pike, Little Rock, Ark.	July, 1919	do	1,555	136	3,059	1,710	10	296	879	281	16	2	1	101	10	15	......	......
Camp Polk, Raleigh, N. C.	June, 1918	March, 1919	1,117	168	1,285	919	36	330	398	17	10	......	......	13	1	......	......	......
Camp Raritan, Metuchen, N. J.	March, 1918	December, 1919	4,616	2,337	6,953	4,487	33	2,433	1,134	12	12	......	......	73	......	8	......	......
Fort Ringgold, Rio Grande, Tex.	April, 1917	do	1,774	441	2,215	1,698	9	508	364	9	2	......	......	13	......	......	......	......
Camp Shelby, Miss.	July, 1919	October, 1919	573	......	1,026	523	2	171	419	92	9	1	2	78	......	9	......	......
Camp Sherman, Ohio	do	December, 1919	1,449	40	2,377	1,257	7	173	801	167	17	1	1	99	......	13	......	......
Siemscarey, Wash.	September, 1918	January, 1919	429	96	525	422	9	94	197	18	......	......	......	......	......	......	......	......
Camp Stanley, Leon Springs, Tex.	August, 1917	May, 1919	5,742	2,944	8,686	5,611	40	3,035	977	46	9	......	......	40	......	......	......	......
Fort Story, Va.	April, 1917	September, 1918	283	......	342	246	5	28	49	5	......	......	......	......	......	......	......	......
Mobilization camp, Syracuse, N. Y.	June, 1917	December, 1917	123	3,778	3,901	2,341	13	1,547	1,151	6	17	......	......	102	......	7	......	......
Recruit camp, Syracuse, N. Y.	July, 1918	April, 1919	4,399	1,631	6,030	2,695	169	3,166	2,732	2	15	......	......	70	......	2	......	......
Camp Walter R. Taliaferro, Calif.	April, 1917	January, 1919	2,063	439	2,502	1,909	1	592	217	15	5	......	......	23	......	......	......	......
Camp Taylor, Louisville, Ky.	July, 1919	December, 1919	1,692	370	3,076	1,644	11	262	584	434	12	1	......	96	......	16	......	......
Fort Tilden, N. Y.	April, 1917	June, 1917	14	1	22	19	1	3	15	7	......	......	......	......	......	......	......	......
Fort Travis, Tex.	April, 1919	December, 1919	128	1,801	3,768	1,809	10	743	1,012	174	14	2	2	106	4	16	......	......
Camp Upton, N. Y.	July, 1919	do	1,129	498	2,607	1,321	4	230	735	207	18	......	2	127	7	14	......	......
Fort Wetherill, R. I.	August, 1917	June, 1918	243	1	260	233	......	7	65	9	......	......	......	......	......	......	......	......

SECTION VII.

OTHER EMBARKATION AND DEBARKATION HOSPITALS.

CHAPTER XXXIII.

PORT OF HOBOKEN, N. J.[a]

EMBARKATION HOSPITAL NO. 1.

In describing the general situation at the two principal ports, mention was made of the fact that the first hospital to be made available for Army use at New York was St. Mary's Hospital, Hoboken. This civil hospital occupied almost an entire city block, which was formed by the intersection of Fourth Street, Willow Avenue, Third and Clinton Streets. There were a main building and two annexes. The main building had five stories, a basement, and a roof garden; one of the annexes, originally constructed for isolation purposes, had three floors and a basement, and the other annex had three floors and a basement. This second annex, at the north end of the main building, had been used in part as a laundry, the equipment for which was on the first floor. The bed capacity of the hospital was 650.

In June, 1917, arrangements were made with the management of St. Mary's Hospital to admit the sick of the Army at the rate of $2 per day. This charge included all services except professional. Medical officers and enlisted men were assigned to the hospital to provide for the professional care of the patients.

The dual control of St. Mary's Hospital continued until July 1, 1918, when it was leased by the Government and placed entirely under military control as Embarkation Hospital No. 1.

The organization of the hospital as a military institution necessitated furnishing more officers and enlisted men and the replacement of the civilian nurses by members of the Army Nurse Corps.

The female nurses were quartered at the hospital. In the building assigned to them for quarters the general mess was operated. From here to the variously located wards the food was conveyed by means of covered food trucks. The enlisted men were quartered principally at 412 Washington Street, Hoboken. When the number of the personnel reached its maximum, at the height of activities, there was an inadequacy of space at the building on Washington Street and the excess number of men were housed in the Stevens Home, which was at that time a ward of the hospital.

During the summer of 1918 several private houses were offered for use in the care of convalescing soldiers. The offers of these private dwellings were accepted and the buildings were made convalescent wards of the hospital.

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[a] The statements of fact appearing herein are based on the "History, Embarkation Hospital No. 1, Hoboken, N. J.," by Lieut. Col. T. C. Quick, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

With the advent of the winter of 1918–19, however, their use as adjuvant portions of the hospital was discontinued. These homes were situated at Mendham, Lewellyn Park, and Berwoodsville, N. J.

When the armistice was signed the commanding officer of the hospital was notified that Embarkation Hospital No. 1 would be utilized, to an extent for debarking sick and wounded. Shortly thereafter patients from overseas were received. Successive groups of these patients were admitted to the hospital for classification and evacuation to hospitals in the interior of the United States.

The welfare activities of Embarkation Hospital No. 1 were supervised by a field director of the Red Cross. He, with a number of subordinates, managed the distribution of tobacco and other articles of comfort to the patients.

The chaplain of the hospital acted in the additional capacity of morale officer, and, due to his efforts, much entertainment was afforded the patients.

Embarkation Hospital No. 1 was discontinued in October, 1919.

Statistical data, United States Army Embarkation Hospital No. 1, Hoboken, N. J., from July, 1918, to October, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
July	237	16	615	9	877	200	2	.....	2	.....	.....	266	3	403	1	7,014	31
August	404	18	714	2	1,138	394	4	3	1	.....	.....	288	1	445	2	13,555	61
September	447	59	1,236	2	1,744	555	12	.....	1	.....	.....	390	.....	784	2	17,372	30
October	786	46	1,137	14	1,983	932	102	1	3	.....	.....	332	.....	605	8	16,105	125
November	613	19	303	.....	935	555	10	1	.....	.....	.....	176	.....	190	3	7,471	128
December	193	68	219	7	487	257	7	1	.....	.....	.....	61	.....	158	3	4,218	185
1919.																	
January	161	192	294	6	653	276	27	5	.....	.....	.....	91	.....	247	7	7,904	113
February	254	324	248	6	832	228	15	12	.....	.....	.....	230	.....	340	7	7,308	45
March	347	514	221	2	1,084	241	23	8	2	.....	.....	473	4	325	8	8,451	159
April	333	397	148	2	880	189	14	7	.....	.....	.....	320	1	342	7	8,553	122
May	349	313	147	2	811	179	9	7	.....	.....	.....	364	1	248	3	7,855	34
June	251	421	136	6	814	204	11	7	.....	.....	.....	235	.....	353	4	11,300	183
July	357	602	178	4	1,141	179	14	14	1	.....	.....	585	.....	345	3	10,392	167
August	348	262	180	3	793	169	9	15	.....	.....	.....	384	2	206	8	7,308	27
September	214	79	128	.....	421	171	3	21	1	.....	.....	136	.....	82	7	3,762	141
October	89	4	5	2	100	26	2	1	.....	.....	.....	71	.....	.....	.....	278	51

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
July	5	6	....	11	February	12	15	....	27
August	4	5	....	9	March	18	18	....	36
September	9	5	....	14	April	....	12	....	12
October	16	7	....	23	May	....	12	....	12
November	11	11	....	22	June	....	12	....	12
December	11	11	....	22	July	....	11	....	11
					August	35	12	....	47
1919.					September	35	12	....	47
January	9	10	....	19	October	18	6	....	24

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Embarkation Hospital No. 1, Hoboken, N. J., from July, 1918, to October, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
July	18	....	1	19	175	19	194	64
August	27	....	1	28	198	19	217	63
September	29	....	1	30	215	17	232	72
October	29	....	1	30	222	17	239	80
November	29	1	1	31	218	....	218	88
December	28	2	1	31	233	....	233	80
1919.								
January	34	1	1	36	264	19	283	80
February	28	1	0	29	240	....	240	79
March	30	1	....	31	250	....	250	73
April	31	1	....	32	275	....	275	79
May	30	3	....	33	276	....	276	78
June	29	5	....	34	278	....	278	77
July	34	5	....	39	269	....	269	78
August	33	3	1	37	269	....	269	77
September	22	3	1	26	233	....	233	55

EMBARKATION HOSPITAL NO. 2, SECAUCUS, N. J.[a]

In July, 1918, arrangements were effected whereby partial use could be made of the Hudson County institutions located on Laurel Hill, overlooking the Secaucus Station of the Erie Railroad. Secaucus is situated in the lowlands to the west of Jersey City, about midway between the hills bordering the western part of the city and the Hackensack River, and is about 4½ miles from the docks of Hoboken.

The hospital buildings were of brick but were not fireproof. There was a fire-hose system on each floor of the building used by the Army, and the fire risk was not considered to be grave.

The roads about the hospital were either macadam or Belgian block; and the road to Jersey City was Belgian block for a part of the way, the remainder being asphalt and macadam.

This hospital was used as a communicable-disease hospital and to it were sent all patients suffering from communicable diseases which developed on transports or in the other military hospitals of the port of embarkation, as well as "contacts" requiring hospitalization.

The method of administering the hospital was similar to that which obtained during the early period of the use of St. Mary's Hospital. Shelter, subsistence, medical supplies, and nursing were furnished by Hudson County for the sum of $2 for each patient per day. The Medical Department supplied medical attendance, administrative officers, and enlisted men who acted in the capacity of orderlies. The food furnished by the Hudson County authorities was purchased from the Quartermaster Corps to the extent of the total commuted value of the rations of the enlisted men at the hospital.

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[a] The statements of fact appearing herein are based on the "History, Embarkation Hospital No. 2, Secaucus, N. J.," by Capt W. J. Monaghan, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

In January, 1919, further need for this hospital ceased, and on February 8, 1919, its military use was discontinued. The patients remaining in hospital on February 8 were transferred to Debarkation Hospital No. 1, and the personnel were distributed to the various hospitals still operating at the port of embarkation.

Statistical data, United States Army Embarkation Hospital No. 2, Secaucus, N. J., from July 1, 1918, to February 20, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
July	112	2	157	......	271	60	......	1	......	......	......	9	......	200	1	4,718	6
August	201	8	143	......	352	166	......	1	1	......	......	6	......	178	......	4,878	3
September	178	8	395	......	581	309	......	......	3	......	......	21	......	247	1	8,973	......
October	248	13	366	......	627	398	23	......	......	......	......	52	......	154	......	5,746	24
November	154	1	208	......	363	172	......	......	......	......	......	5	......	186	......	5,008	7
December	186	6	299	......	491	255	1	......	......	......	......	......	......	235	......	5,327	......
1919.																	
January	235	6	435	......	676	168	3	......	......	......	......	131	......	374	......	9,424	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.									
July	6	18	....	24	October	3	26	....	29
August	9	14	....	23	November	3	33	....	36
September	6	24	....	30	December	3	24	....	27

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.		
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.
1918.							
July	12	....	....	12	48	....	48
August	12	....	....	12	54	....	54
September	11	1	....	12	76	....	76
October	12	1	....	13	73	....	73
November	14	1	....	15	74	....	74
December	16	1	....	17	74	....	74
1919.							
January	20	1	....	21	84	....	84
February	1	....	....	1	0	....	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

EMBARKATION HOSPITAL NO. 3, HOFFMAN ISLAND, NEW YORK HARBOR.[a]

Embarkation Hospital No. 3 was located on Hoffman Island, a low-lying artificially made body of land, situated in New York Harbor, in that part commonly referred to as the Lower Bay. Accessible only by boat, this island made an admirable location for a hospital for the treatment of venereal diseases. Both the island and the hospital were the property of the State of New York, and, prior to their accession by the War Department, had been used as a place of detention by the quarantine officer of New York.

The buildings were old and the plumbing, heating, and lighting facilities were inadequate, but during the early period of embarkation the Medical Department looked with much favor upon the acquisition of these buildings, since it meant a relief from the serious situation regarding the bed capacity of the embarkation hospitals.

First used in December, 1917, it was known as the Army Hospital, Hoffman Island. Under this name it continued until July, 1918, when it became Embarkation Hospital No. 3.

The hospital, throughout its existence, was operated much the same as other military hospitals, with the exception that the State of New York provided the food and medical supplies, at the rate of $2 per diem per patient. The Medical Department supplied personnel for the administration of the hospital and the professional care of the patients. The Army subsisted the enlisted personnel on duty at the hospital.

In December, 1918, other and more satisfactory arrangements were made by the Medical Department for the treatment of genitourinary diseases, and Embarkation Hospital No. 3 was abandoned on January 1, 1919. The patients then in hospital were transferred to one of the other hospitals at the port.

Statistical data, United States Army Embarkation Hospital No. 3, Hoffman Island, N. Y., from July, 1918, to December, 1918, inclusive.[b]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	In hospital.	In quarters.
			By transfer.	Otherwise.													
1918.																	
July	393	10	185	......	588	356	......	......	......	......	......	8	......	224	......	6,911	10
August	224	10	325	......	559	194	......	......	......	......	......	15	......	348	2	8,660	8
September	350	7	392	......	749	255	......	1	......	......	......	5	12	475	1	13,975	2
October	476	17	129	......	622	285	5	......	......	......	......	3	......	328	1	12,106	45
November	329	13	73	......	415	217	......	......	......	......	......	37	......	161	......	7,706	28
December	161	4	14	......	179	121	......	......	......	......	......	54	......	4	......	2,397	......

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[a] The statements of fact appearing herein are based on the "History, Embarkation Hospital No. 3, Hoffman Island, N. Y.," by Maj. L. A. Walker, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

[b] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Sections, Adjutant General's Office; and monthly statistical returns made to the Office of the Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

Statistical data, United States Army Embarkation Hospital No. 3, Hoffman Island, N. Y., from July, 1918, to December, 1918, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.		
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department	Miscellaneous (Q. M. C., etc.).	Total.
1918.							
July	15			15	87		87
August	14	1		15	80		80
September	16	1		17	73		73
October	16			16	75		75
November	19			19	86		86
December	9			9	35		35

EMBARKATION HOSPITAL NO. 4, NEW YORK CITY.[a]

The hospital of the New York Polyclinic Medical School and Hospital was leased by the Government on October 20, 1918. The hospital was located at 345 West Fiftieth Street, New York City, 3 miles from the center of activities of the port of embarkation, three blocks from Pier 90 at Fiftieth Street and Hudson River, and one-half block from the electric car lines on Eighth and Ninth Avenues. The building was an 11-story, fireproof structure of steel and concrete, and contained a basement, a cellar, and a subcellar. It had been designed for use as a hospital, and had been completed in 1912. Its ground area was 100 feet square and its gross floor space was 110,000 square feet. Within it there were 94 private rooms and wards, 4 operating rooms, and a number of rooms which had been used for clinical and didactic purposes, and which were readily convertible into wards. These rooms and wards gave a bed capacity of approximately 450. The building contained a kitchen of sufficient capacity to feed 800 persons at one meal; a bakery adequate to prepare all the bread needed for the hospital; a laundry equipped to meet all needs; and a heating plant that not only heated the building in which it was located but five dwellings adjoining the hospital. All stairways were of steel and concrete construction, and they were equipped with fire doors. There were three large elevators ample in size to accommodate stretcher cases. The institution was lighted by both gas and electricity; and, to guard against a temporary failure of the city water supply, had reserve tanks for water on its roof.

From October 20, 1918, the day it was taken over for Medical Department use, until December 18, the building was cleaned, and preparations were made for the reception of patients. During much of this period of time the main hospital building was used as quarters for nurses who were being mobilized for duty overseas. There were a few patients in hospitals representing members of the command, nurses from overseas, etc.; but on December 19, 1918, the hospital was formally opened by the admission of 176 patients from overseas.

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[a] The statements of fact appearing herein are based on the "History, Embarkation Hospital No. 4, New York City," by Lieut. Col. J. L. Robinson, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

Thereafter, the hospital, though designated an embarkation hospital, functioned principally as a debarkation hospital. On August 15, 1919, the hospital was abandoned.

Statistical data, United States Army Embarkation Hospital No. 4, New York City, N. Y., from November 4, 1918, to August 15, 1919, inclusive.[a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
November	......	4	......	......	4	1	......	......	......	......	......	2	......	1	......	2	11
December	1	6	......	199	206	8	2	......	......	......	......	......	......	196	......	2,514	......
1919.																	
January	196	14	3	177	390	14	1	......	......	......	......	341	......	33	1	3,852	12
February	34	17	7	378	436	21	1	......	......	......	......	280	......	129	5	3,890	28
March	134	14	9	197	354	31	3	......	......	......	......	272	......	47	1	1,751	21
April	48	29	38	367	482	29	......	......	......	......	......	318	1	134	......	3,029	59
May	134	16	45	311	506	40	1	......	......	......	......	311	1	153	......	2,985	19
June	153	25	27	246	451	11	1	......	......	......	......	255	......	184	......	1,967	......
July	184	22	5	293	504	63	6	......	......	......	......	413	......	22	......	7,373	......
August	22	1	......	......	23	......	......	......	......	......	......	23	......	......	......	229	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
November	18	20	....	38	March	20	24	....	44
December	20	20	....	40	April	20	24	....	44
					May	19	28	....	47
1919.					June	20	32	....	52
January	18	17	....	35	July	28	27	....	55
February	20	20	....	40	August	25	29	....	54

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.		
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.
1918.							
November	19	....	1	20	121	....	121
December	30	....	1	31	141	5	146
1919.							
January	29	....	1	30	171	7	178
February	29	....	1	30	161	10	171
March	25	4	1	30	162	9	171
April	32	5	1	38	174	8	182
May	29	6	1	36	173	8	181
June	31	5	1	37	172	4	176
July	28	6	1	35	174	....	174
August	28	6	1	35	167	....	167

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., file "E. E." Misc. Div.)

DEBARKATION HOSPITAL NO. 1, ELLIS ISLAND, N. Y.[a]

Ellis Island comprises three parts known as island No. 1, No. 2, and No. 3, respectively. The group lies midway between Brooklyn and Jersey City, practically at the head of the New York Bay, and about 1¼ miles from New York City. Two of the islands are artificial, and the buildings upon them have been erected on piling.

The buildings on Ellis Island had been used by the Bureau of Immigration, principally, but partly by the United States Public Health Service.

On February 21, 1918, the Secretary of Labor, in a letter to the Secretary of War, agreed to the partial use of the buildings by the Medical Department of the Army and designated portions of the group that were available. At that time there were 109 patients on the island, representing immigrants and enlisted men of the United States Navy. The hospital, with its patients, was turned over to the Army on March 8, 1918, and the commanding officer of Debarkation Hospital No. 1 assumed charge, relieving the Public Health Service from all responsibility for the care of both patients and property.

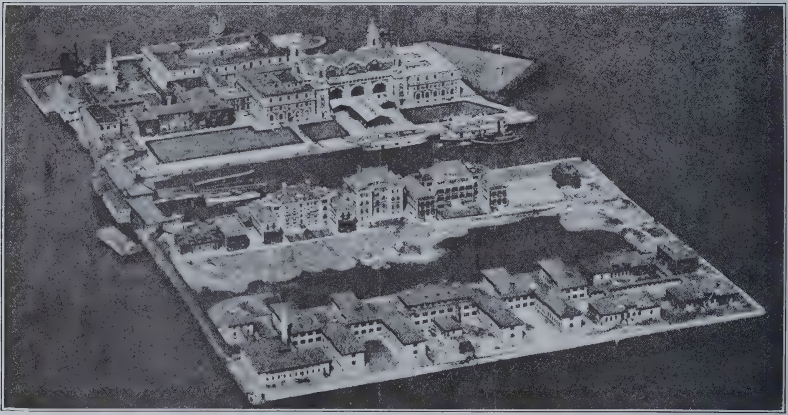

FIG. 198.—Airplane view of Debarkation Hospital No. 1, Ellis Island, New York.

The following use was made of the portions of Ellis Island transferred to Army control: Island No. 1 was used primarily as quarters for the enlisted men on duty at the hospital, and for 260 patients; island No. 2, used as the administrative center, contained wards for 280 patients of a surgical character; and island No. 3 was used for 500 patients, in separate wards, located in buildings of one or two stories each. The officers on duty at the hospital were quartered in the buildings of island No. 3, while the nurses were quartered on the third floor of the building on island No. 2.

The buildings occupied practically all the space on the islets, and there was no possibility for expansion. Connecting the buildings, one with another, were covered ways.

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[a] The statements of fact appearing herein are based on the "History, Debarkation Hospital No. 1, Ellis Island, N. Y.," by Maj. C. R. Haig, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

On each island there was a kitchen which was used for the preparation of food for patients, as well as the duty personnel. The officers had a dining room on island No. 3, the nurses' mess hall was on island No. 2, and the mess hall of the detachment, Medical Department, was on island No. 1. Each group thus had a dining hall in close proximity to its respective quarters. The equipment of the kitchens was mainly that transferred by the Public Health Service.

All departments of the hospital were directly connected with the public waterworks of Jersey City. The water, as supplied, was found to be consistently of excellent quality and of a low bacterial count.

All the buildings contained modern plumbing. The sewage emptied immediately into the surrounding body of water.

For the disposal of garbage, brick incinerators had been constructed on island No. 1. These incinerators satisfactorily disposed of all solid wastes not discharged into the sewerage system.

Each building was comfortably heated by steam that was supplied from the heating plant operated by the Immigration Service.

The lighting of the hospital was by electricity, likewise supplied by the Immigration Service from a power plant on the island. The form of current furnished was 220 volt, direct. The lighting system was only fairly satisfactory.

When the hospital was transferred to the Medical Department there was sufficient equipment for 500 patients. This equipment was increased to make it adequate for the care of 1,000 patients.

On March 23, 1918, a hospital exchange was started without capital. Subsequently, in addition to its retail department, it conducted a three-chair barber shop, a tailor shop, and a laundry.

During the summer months of 1918 the Red Cross maintained a large tent on island No. 3. Here during the hot days the patients gathered for entertainment or to visit with their friends. At night there were performances of various sorts for the benefit of the patients. In the fall of 1918 the construction of a large fireproof building was begun on island No. 2. This building was completed and ready for use on Christmas day following.

There was no separate building provided by the Young Men's Christian Association, but space was given this organization in the building on island No. 1, where a well-equipped library and reading and writing room were established. There were also musical instruments, pool tables, etc., for the use of members of the detachment as well as the patients. A moving picture apparatus supplied ample evening entertainment.

Since the hospital buildings occupied practically all the available space on the islets, there was little possibility for outdoor recreation. During the summer months the only means of recreation were swimming, boxing, and other forms of outdoor contests which could be carried on in the very limited space.

This hospital was closed on June 30, 1919, in compliance with a request of the Secretary of Labor, addressed to the Secretary of War on April 1, 1919.

Statistical data, United States Army Debarkation Hospital No. 1, Ellis Island, N. Y., from August, 1918, to June 30, 1919, inclusive.[a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
August	272	37	33	......	342	33	3	......	......	......	......	293	3	7	3	1,375	39
September	10	71	96	......	177	42	4	......	......	......	......	73	2	56	......	1,088	29
October	56	101	116	......	273	128	6	......	1	......	......	83	......	55	......	2,173	42
November	55	46	64	1	166	43	6	......	5	......	......	48	......	64	......	1,674	10
December	64	52	127	3	246	40	10	......	14	......	......	127	......	53	2	2,684	8
1919.																	
January	55	56	99	6	216	58	4	......	1	......	......	60	3	89	1	2,095	34
February	90	70	677	1	838	67	5	......	1	......	......	278	......	487	......	8,173	14
March	487	72	468	......	1,027	101	9	......	......	......	......	649	1	267	......	12,268	61
April	267	32	470	......	769	64	6	......	......	......	......	393	......	306	......	8,829	12
May	306	25	195	......	526	97	16	1	......	......	......	264	......	147	1	7,205	14
June	148	5	10	1	164	23	11	1	10	......	......	119	......	......	......	1,501	3

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					**1919.**				
August	2	18	....	20	January	2	15	....	17
September	2	18	....	20	February	2	21	....	23
October	2	19	....	21	March	2	21	....	23
November	2	15	....	17	April	2	21	....	23
December	2	15	....	17	May	2	21	....	23
					June	2	18	....	20

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
August	29	2	1	32	297	11	308	50
September	29	2	1	32	363	10	373	64
October	29	2	1	32	350	10	360	79
November	34	2	1	37	360	....	360	44
December	37	3	2	42	378	23	401	76
1919.								
January	34	3	2	39	392	31	423	64
February	33	3	1	37	374	37	411	63
March	29	3	1	33	363	31	394	73
April	27	3	1	31	316	22	338	69
May	23	3	1	27	282	17	299	62
June	8	2	1	11	53	17	70	....

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., file "E. E." Misc. Div.)

DEBARKATION HOSPITAL NO. 2 (GENERAL HOSPITAL NO. 41), FOX HILLS, STATEN ISLAND, N. Y.

Early in the war it was the plan of the Surgeon General to begin the provision of the debarkation hospital facilities at the port of New York in order that, when the time came, facilities would be available at that port for the reception and temporary treatment of the returned overseas sick and wounded.[1] Several properties in the vicinity of New York City were considered. Two tracts on Staten Island, the Mathews site and the Fox Hills site, were chosen as being more suitable than any others. They were both carefully inspected and the latter was selected for the site of the debarkation hospital.

The site was high and rolling and comprised 158 acres situated at Rosebank, near the quarantine dock on the northeastern portion of the island opposite The Narrows. It was 15 minutes by motor from St. George Ferry and approached by good macadam roads.[2]

On November 8, 1917, the Surgeon General recommended the leasing of the various properties constituting the site.[3] This was approved by the Secretary of War on the 10th of that month,[3] and on the 15th the Quartermaster General was requested to execute the leases as approved.[4] Although the site was hilly and, therefore, rather difficult and somewhat expensive for temporary construction, it was approved by those concerned and the leases were proceeded with

The total yearly rental to the various lessors was $18,656.[5] Four of the lessors tendered their properties at $1 per year; the remainder were commercial leases. By December 18, 1917, most of the leases had been secured.

Meanwhile, further study was given to the planning of the hospital and the general question of the handling of debarking sick, and, as a result, preliminary plans were prepared for a hospital larger than any hitherto constructed for the War Department in the United States.[2] Special attention was given to the requirements of the receiving building. It was so planned as to permit the physical examination and the necessary record work incident to the admission of large numbers; and a portion of it was planned to facilitate the discharge of patients en route to the general hospitals of the interior. In conjunction with and attached to it, to unify operation, the laundry, disinfecting, and dry-cleaning buildings were arranged. The latter, a new departure in Army hospital construction, was planned to afford a much-needed utility. In general, the plans of the hospital were the same as for the base hospitals in the cantonments, but the kitchens and mess halls were larger, thus giving the hospital greater expansion possibilities than there were in the other hospitals.[6] These preliminary plans were sent to the Quartermaster General in December, 1917, with request for construction.[7]

The preliminary construction work began in January, 1918, when a spur track was built from the Staten Island Rapid Transit Railroad. This facilitated the construction of the hospital which was to follow and which was carried on as rapidly as weather and other conditions permitted. As originally planned and constructed, the capacity of the hospital was 1,912 beds for sick and accommodations for 40 commissioned officers, 180 nurses, and 440 enlisted personnel. In all, there were approximately 70 buildings.[6]

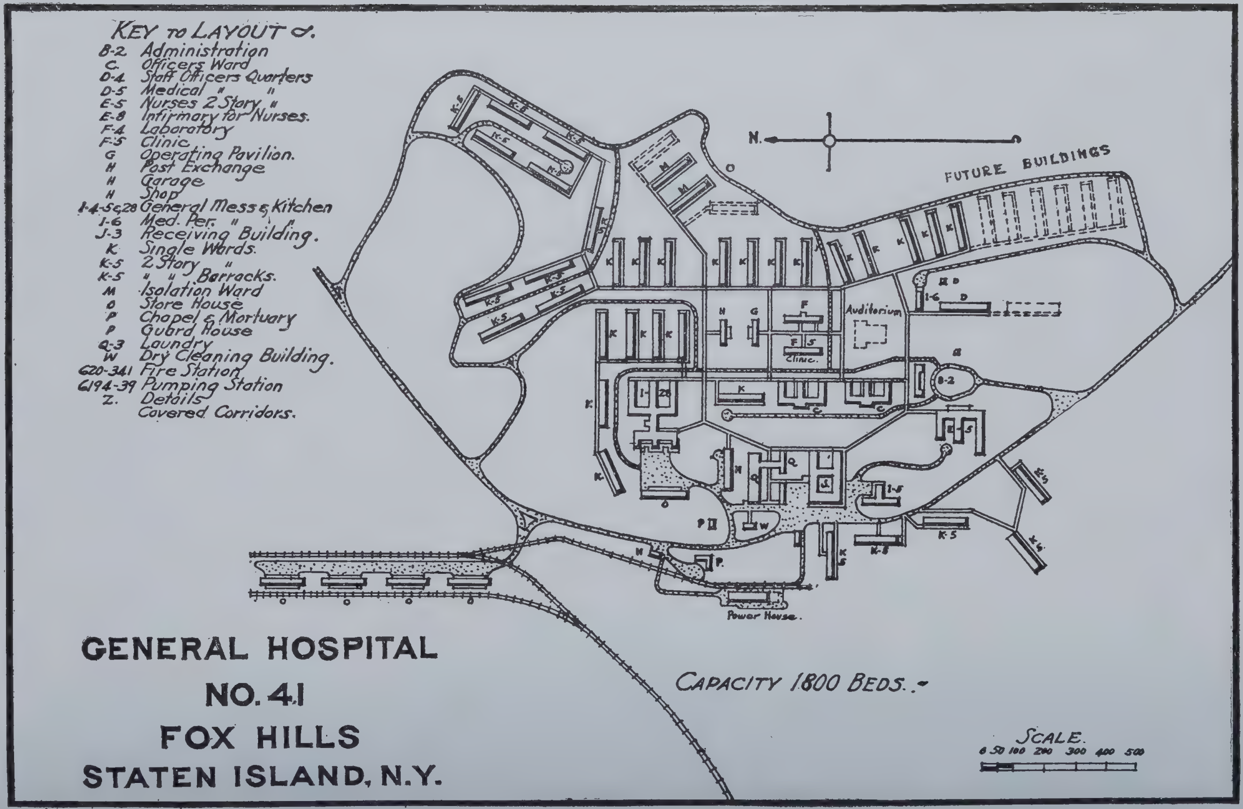

FIG. 199.—Debarkation Hospital No. 2 (General Hospital No. 41), Fox Hills, Staten Island, N. Y.

A portion of the hospital was completed for occupancy in the early summer of 1918, and by midsummer the hospital, except for certain additions requested, was entirely complete. Six one-story wards and 2 two-story wards were added in the fall of 1918; 6 wards, already constructed, were altered for the treatment of psychiatric cases, and an automatic fire-alarm system was installed.[8] The total cost was $2,600,000.

This hospital was one of four where, due to the scarcity of lumber and shipping facilities, large quantities of insulite, a substitute for lumber, were used in its stead in the erection of buildings. Late in 1918 over $50,000 was spent in the application of stucco and paint over the insulite of which many of the buildings were constructed.[8]

On March 14, 1918, the hospital was designated "United States Army General Hospital No. 10,"[9] and on May 10, 1918, it was designated "Base Hospital, Fox Hills, Staten Island," and placed under the commanding general of the Port of Embarkation, Hoboken, N. J.[10] It was opened in June, 1918, and was designated "United States Army Debarkation Hospital No. 2,"[11] but it was not until October, 1918, that any considerable number of overseas sick and wounded was handled there. Starting with about 50 patients in October, the number reached 229 before the end of the month.[12] By the end of November the number had reached 1,500.[12] From November, 1918, until March, 1919 (at which time it was taken from the port and made General Hospital No. 41),[13] the number of sick in hospital varied from 400 to 1,800.[12] The number was never the same two weeks in succession, due to the sudden and frequent arrivals of large numbers from France or to the rapid evacuation of large numbers to the various general hospitals throughout the United States. Within the week of January 4 to 10, 1919, the high and low points varied over 1,200.[12]

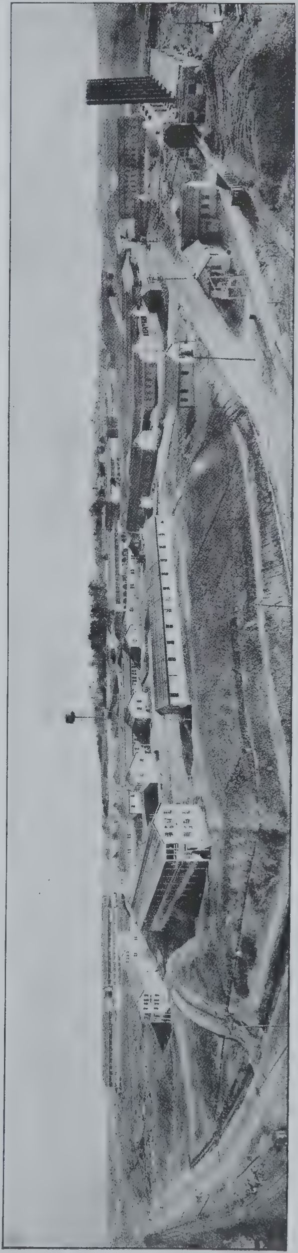

FIG. 200.—Debarkation Hospital No. 2.

Statistical data, United States Army Debarkation Hospital No. 2, Fox Hills, Staten Island, N. Y., from July, 1918, to February, 1919, inclusive.[a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.														
			By transfer.	Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1918.																	
July	10	28	......	1	39	23	.....	.....	.....	.....	.....	.....	.....	15	1	311	2
August	16	36	1	......	53	36	.....	.....	.....	.....	.....	3	.....	14	......	613	2
September	14	68	1	......	83	52	1	.....	.....	.....	.....	2	.....	28	......	391	4
October	28	140	60	1	229	184	2	.....	.....	.....	.....	5	.....	38	......	2,452	36
November	38	32	34	1	105	38	7	.....	.....	.....	.....	19	2	39	......	888	2
December	39	70	147	1	257	39	6	.....	.....	.....	.....	112	.....	100	......	3,186	18
1919.																	
January	100	99	345	5	549	84	7	.....	.....	.....	.....	108	.....	350	......	4,232	11
February	350	91	223	2	666	80	10	.....	.....	.....	.....	156	6	414	......	11,690	22

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
August	....	3	....	3
September	....	13	....	13
October	....	13	....	13
November	....	13	....	13
December	....	13	....	13
1919.				
January	....	13	....	13
February	....	15	....	15

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
July	29	3	2	34	413	31	444	54
August	40	4	2	46	408	37	445	55
September	37	4	0	41	431	60	491	67
October	29	3	4	36	430	63	493	69
November	44	3	4	51	482	84	566	86
December	49	6	2	57	536	187	723	89
1919.								
January	50	7	2	59	528	165	693	64
February	38	6	1	45	514	38	552	65

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., file "E.E." Misc. Div.)

DEBARKATION HOSPITAL NO. 4 (GENERAL HOSPITAL NO. 39) LONG BEACH, LONG ISLAND, N. Y.

Debarkation Hospital No. 4 consisted of the Nassau Hotel and several adjoining buildings of minor consequence, situated at Long Beach, Long Island, 25 miles from New York City. The Hotel Nassau was a 7-story fireproof building with a 2-story annex, and it contained 400 rooms above the first floor. The building had been erected directly on the beach, facing the ocean, and was 300 feet long and 140 feet wide. In addition to being fireproof, it was well supplied with fire extinguishers and fire lines with outlets on each floor. It was reached by the Long Island Railroad, the station being five blocks from the hotel.[14]

The ground floor contained the mechanical department, including the heating, lighting, power plant, laundry, paint shop, storerooms, kitchen, bakery, servants' dining rooms, grill room, barber shop, etc.[14] The main floor, surrounded by a large covered veranda, contained the main lobby, reception corridor, ballroom, main dining room, several large private dining rooms, offices, etc.[14] The remaining were the sleeping floors containing, with the exception of the sixth, 50 bedrooms each.[14] On the sixth floor there were 104 rooms, 4 dormitories, and outdoor sleeping facilities.[14] In the two-story annex there were additional sleeping rooms.[14] This hotel had been inspected by an officer from the Surgeon General's Office in the fall of 1917, with a view to its use as a general hospital. Negotiations concerning its rental or purchase consumed much time throughout the fall of 1917. The first offer demanded $150,000 rental per year, the purchase of the furniture and equipment at $210,000, the necessary renovation and alteration at $71,500, and an additional $25,000 to restore the property after War Department occupancy had ceased.[15] It was decided not to lease this property, but to look elsewhere for hospital facilities, as the above stipulations could not be met by the War Department.

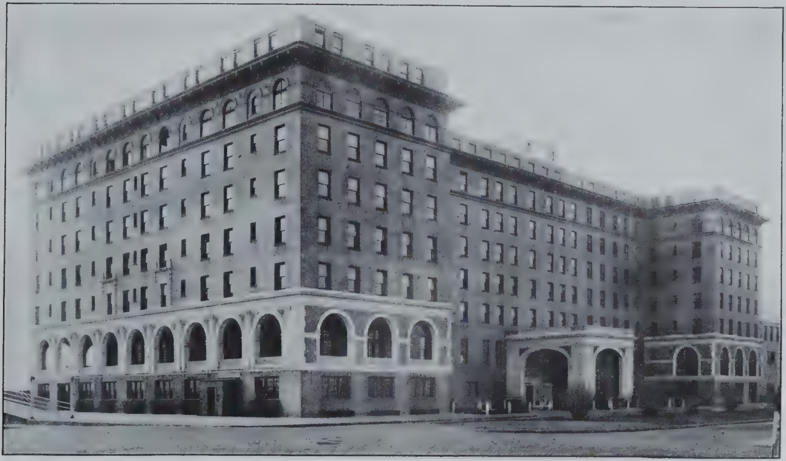

FIG. 201.—Debarkation Hospital No. 4, Long Beach, Long Island, N. Y.

On December 4, 1917, the president of the Nassau Hotel Co. made another offer to lease the hotel to the Government for $150,000 and the purchase of the equipment at $100,000 to $140,000, or the sale of it to the Government for $1,150,000.[16] Neither of these propositions was acceptable to the War Department and again negotiations failed.

Until the spring of 1918 it had been the intention to use this hotel, should it be acquired, for general hospital purposes, but by the spring of 1918 the necessity for increasing the number of beds in the port of New York becoming more acute, and with negotiations still unsettled, it was decided, should it be possible to secure it, to use the Nassau Hotel as a debarkation hospital for that port. Accordingly, on May 22, the Surgeon General, for the first time recommended the leasing of this property at not to exceed $125,000 a year. As a result of the surveys made prior to this date, it was reported to have a capacity of 1,300 beds.[16] It was not contemplated to purchase the equipment at this time. The lease was approved on June 12,[16] preliminary arrangements were made to take possession after September 5, and the rental figure was agreed upon at $105,000 a year.[17]

Arrangements having been finally completed, the hotel was taken over in September, 1918, and on the 19th of that month was designated "Debarkation Hospital No. 4" and assigned to the jurisdiction of the commanding general of the Port of Embarkation, Hoboken.[18]

On August 14 a complete survey had been made of the hotel with a view to determining what alterations would be required for its use as a hospital. Based upon the plans prepared, the Surgeon General recommended the expenditure of $25,000.[19] Renovation and construction work began soon after September 25, 1918, when those to be in charge of this work arrived. The work done consisted particularly of repairs to the heating plant, the installation of new radiation on the seventh floor to render it habitable in winter for the personnel on duty at the hospital, the installation of a diet kitchen on each floor, some plumbing alterations and installations throughout the building, the erection of necessary partitions, some painting, and the installation of additional kitchen equipment.[20] The work was practically completed in December of 1918 and cost $24,889.

The hospital was not put to use during the period of renovation. Conditions at the port of New York in respect to bed space in debarkation hospitals, which previously appeared to be inadequate, now, in December, 1918, proved to be well taken care of. Consequently, when it became available, it was not required for debarking sick. The Surgeon General then recommended that it be designated as a general hospital and placed directly under the control of the War Department, and on December 9, 1918, it became General Hospital No. 39.[21]

As General Hospital No. 39 it was opened in January, 1919, with a capacity of 500 beds, and a small number of sick was immediately sent there.[22] By March the number of sick constantly in the hospital had increased to 500.[22] In the meantime, however, February, 1919, the general bed situation in general and base hospitals in the United States was becoming less acute. The Surgeon General's policy for some time had been to use the base hospitals in cantonments as well as the general hospitals for the care of the overseas sick. While there were many sick yet to be returned from France, the date upon which the peak load would be reached had been predicted and had just been reached. On

February 19, 1919, the Surgeon General, under the terms of the lease, recommended cancellation of all leases and the abandonment of the hospital,[23] much as it was desired to operate it for the sick through the coming summer season. Patients and personnel were to be removed by April 1. It was contemplated to remove all property and to deliver the buildings to the lessor on April 30. This recommendation was approved and carried out. The sick, meanwhile, having been reduced to a small number by successive stages, were transferred, prior to the removal of Government property and the surrender of the buildings.[24]

Statistical data, United States Army Debarkation Hospital No. 4, Nassau Hotel, Long Beach, N. Y., from October, 1918, to March, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
October		7			7	5						1			1		40
November	1	6			7	3						1			3		26
December	3	8			11	7						3	1				39
1919.																	
January	13	28	305	1	347	35							14	297	1	74	71
February	298	34	193	51	576	42						6	42	486		889	
March	486	6	7	7	506	179						323	4			95	

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.
1918.				
September	16	7		23
October	24	6		30
November	24	6		30
December	21	5		26
1919.				
January	24	7		31
February	23	10		33
March	21	11		32
April	20	4		24

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
September	7	3	1	11	79	1	80	
October	11	3	1	15	79	3	82	
November	19	3	1	23	81	3	84	
December	24	3	1	37	310	14	324	46
1919.								
January	30	6	1	37	310	14	324	46
February	26	6	4	36	313	16	329	44
March	9	4	2	15	109	13	122	44
April	4		1	5				

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

DEBARKATION HOSPITAL NO. 5, GRAND CENTRAL PALACE, NEW YORK CITY.[a]

On September 16, 1918, the building formerly known as the Grand Central Palace was designated "Debarkation Hospital No. 5," by General Orders, No. 111, Headquarters, Port of Embarkation, Hoboken, N. J. A lease bearing the date September 1, 1918, had been executed by the Government on September 3, at a time when the floors of the building were still in use by tenants. The building was of the loft type of architecture and was considered highly adaptable to hospital purposes. It was located in New York City and covered the entire block from Forty-sixth to Forty-seventh Street on Lexington Avenue, and extended west to Depew Place, a private right of way of the New York Central Railroad. On the east and west the building was 200 feet in height and on the north and south sides it was 272 feet high. It was within one block of the Grand Central Terminal, 1 mile distant from the Pennsylvania Railroad Terminal, and was within easy access of all the docks of Manhattan. The structure was classed as a 12-story fireproof building; its walls were made of steel and light-faced brick, trimmed with terra cotta; and all of its floors except the first three were of cement. The first, second and third floors were of fireproof wooden construction. The total floor area of the building was 600,000 square feet.

On September 18, 1918, the constructing quartermaster forwarded to the Construction Division, War Department, a $215,000 estimate, covering the alterations deemed necessary to convert the building to hospital purposes Revised plans were received September 20, 1918, but it was not until October 3 that actual work on alteration was begun. The building, being in good general condition and readily adaptable to the purpose intended, obviated any structural changes. The revised plans, however, called for partitions, plumbing, and other fixtures. Numerous baths and showers were installed, the work conforming in a large measure, in finish and construction, to that of the base hospitals in cantonments. The existing building was disturbed as little as possible.

The many partitions referred to were required to divide the floors into wards, toilet sections, cafeterias, a post exchange, gymnasium, assembly room, a theater, closets, kitchen, and storeroom departments, in addition to the various offices and recreation rooms. These partitions were made of semifireproof plaster board and extended to a height of about 7 feet, being topped by a 2 by 6 inch rider, though in some instances they extended from the floor to the ceiling.

All the wards were well ventilated and heated and had abundant light on two sides. In each of the east wards there was a floor space of over 10,000 square feet, while in each of the smaller or west wards there was a floor area of about 8,000 square feet. A large recreation room was located between two of the main wards on each floor and was so placed as to give a view of the eastern part of the city and the East River. Each floor used for wards had two quiet rooms, two toilet and service sections, as well as a cafeteria dining room. Offices, living rooms, and closets were conveniently and amply provided. The toilet sections comprised a ward toilet section with 6 closet bowls, 1 urinal,

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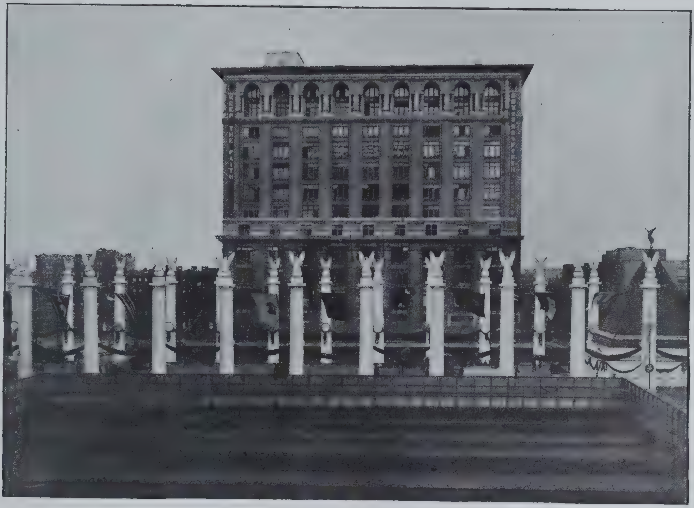
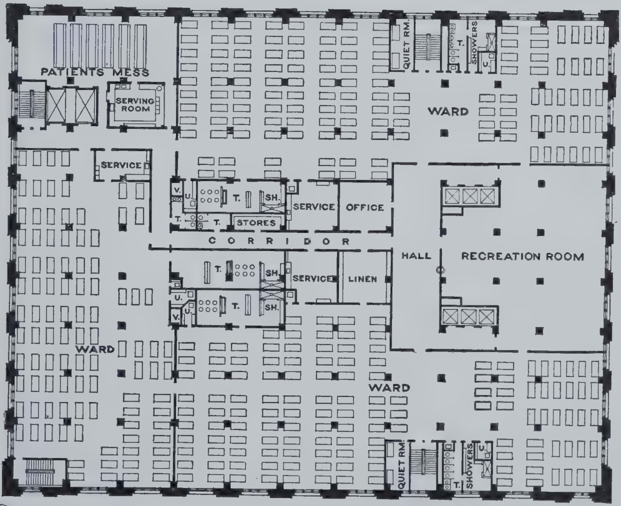
[a] The statements of fact appearing herein are based on the "History, Debarkation Hospital No. 5, New York City," by Capt. J. D. Caldwell, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

DEBARKATION HOSPITAL NO. 5

GRAND CENTRAL PALACE NEW YORK CITY





TYPICAL FLOOR PLAN
370 BEDS

MEDICAL DEPARTMENT U. S. ARMY

AWH

FIG. 202.

1 double lavatory, a shower, and tub bath; a utility room with flushing hopper; a nurses' toilet room with 2 closet bowls; an officers' toilet with 1 bowl. The typical ward floor had 370 beds, and the bed capacity of the entire hospital was 3,500.

The twelfth floor differed from the typical floor plan in that it was somewhat smaller. There was less light because of restricted window space and because of the obstruction caused by the overhanging roof. The eleventh floor also differed from the typical ward floor in that it was subdivided into smaller wards, there being 10 in all, varying in capacity from 2 to 25 beds. On this floor were diet kitchen, living rooms, offices, and conveniently located compartments. In the center were located the dispensary and the pharmacists' room. The dispensary was large and commodious, was well supplied with the needs of the hospital, and was always well kept.

The surgical section, X-ray, dental, ear, nose and throat, eye, genitourinary, dressing departments with four sterilizers, two separate pairs of operating rooms (between each of which there was a sterilizing and wash-up room), the morgue, autopsy rooms, three wards, the laundry, the Carrel-Dakin room, and the surgeon's office were all located on the third floor.

The first or main floor was one of the most important in the building. Here were located the receiving and evacuating rooms, the kitchen, and the kitchen storerooms, the Red Cross offices, officers' lavatory, the nurses' locker room and lounge, and the chaplain's office.

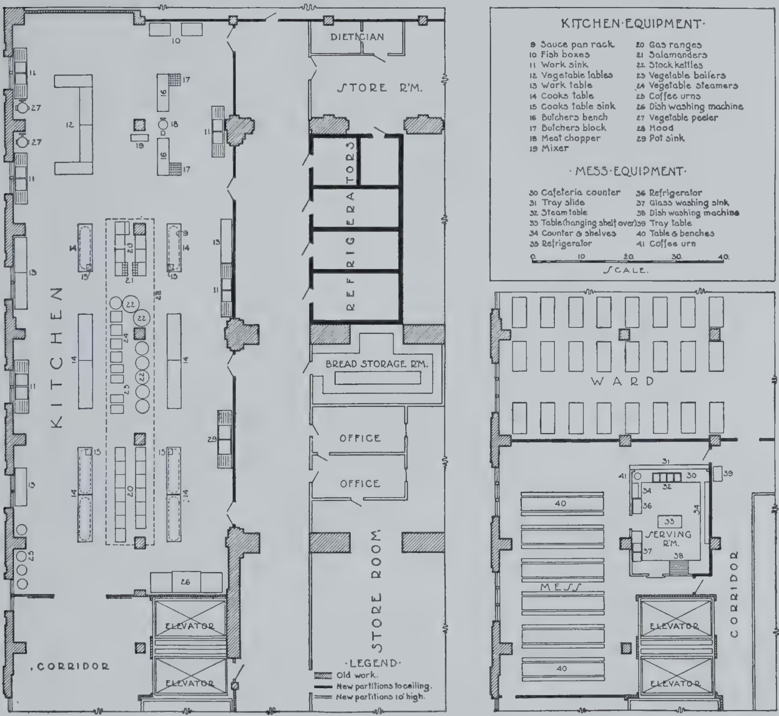
The basement, on the east, was at the level of Lexington Avenue. Many offices were located here, which included the quartermaster department, and in addition there were the sterilizer, the ice plant, telephone exchange, carpenter's room, guardhouse, and the street level for the elevators.

The Lafayette House, at 112 East Fifty-Ninth Street, formerly the German Club, was operated as an auxiliary to this hospital and was used as an officers' ward. This building was equipped by the American Red Cross and was operated by them, except that the control and treatment of the patients was maintained by the hospital. The building was adequate for the care of convalescent officers but had no equipment for the care of the seriously sick or injured.

In December, 1918, the Bible Teachers' Training School, a block away from the hospital, was leased for nurses' quarters.

The principal difference between this hospital and Debarkation Hospital No. 3 was that in the Grand Central Palace building it was necessary to establish a floor unit arrangement. The Greenhut building had but 6 stories, all of which intercommunicated by means of 12 elevators and 6 stairways, thus permitting ambulant sick and personnel to come to meals at the central mess hall without overtaxing the elevators or producing a great amount of noise on the stairways. The Grand Central Palace had 12 stories and but 9 elevators and 4 stairways. Since it was essential that noise be kept at a minimum the constant use of the stairways by large numbers was precluded. If the mess hall had been established on the first floor the second floor only could be excluded from the numbers that would have had to use the elevators, since it could be expected that only those on the floor above the mess hall would utilize the stairway when coming to meals. To have reduced the number using the elevators, by establishing the mess hall on the sixth floor, so as to require those from the fifth and seventh floors to use the stairways, would have necessitated establishing the cooking facilities on the same floor, to which there were too many practical obstacles.

The kitchen was installed on the first floor. It extended from the service storage end of the building to the service elevators which connected with the floors above. Service and mess rooms were then provided each floor, adjoining the service elevators. Each serving room was equipped to receive food from the main kitchen, to serve it from steam tables to the patients' mess or the cafeteria counter, to make up the trays for the bed patients, and to wash and store necessary dishes and utensils.



·GENERAL·KITCHEN· ·TYPICAL·PATIENTS·MESS·

·DEBARKATION·HOSPITIAL·No.5

GRAND CENTRAL PALACE, New-York City.

FIG. 203.

The initial installation of the floor unit was more expensive; it cost more to operate it; and it occupied more space than the centralization of these activities necessitated, such as was the case at the Greenhut Building. It operated with entire satisfaction.

The American National Red Cross was placed in charge of the general information bureau which concerned patients as well as visitors. The location of the hospital in the heart of New York, as well as the fact that the building had a reputation of being a former show place, attracted many visitors. The Red Cross completely equipped many recreation rooms in the hospital and provided personnel for them. To carry on its work the Red Cross was organized into the following departments: A home service, a department for entertainment and outside recreation, an educational department, a social service department, the information bureau for questions of compensation and war-risk insurance, and an information bureau concerning recreation work and vocational education.

The American Library Association operated in conjunction with the Red Cross and supplied an immense number of daily newspapers, books, and much reading matter for the patients.

On June 2, 1919, the last patient was received, and on June 16 the last patient was evacuated. The work of removing medical supplies had already started and the property was rapidly being removed when, on June 30, 1919, the hospital was officially closed and the work of dismantling and restoring the building to its original status was begun.

Statistical data, United States Army Debarkation Hospital No. 5, Grand Central Palace, New York City, from December, 1918, to June 30, 1919, inclusive. [a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
December	......	3	21	......	24	......	1	......	......	......	......	3	......	20	......	48	......
1919.																	
January	20	88	171	......	279	50	5	......	......	......	......	154	......	70	......	2,100	......
February	70	110	511	......	691	59	8	......	......	......	......	541	4	79	......	2,312	......
March	79	113	672	7	871	61	15	......	......	......	......	678	1	116	......	3,383	......
April	116	85	340	5	546	60	14	......	3	......	......	362	6	101	......	2,550	......
May	101	58	158	16	333	68	7	6	......	......	......	189	7	56	......	3,018	......
June	56	11	36	9	112	36	10	......	7	......	......	52	7	......	......	790	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1919.					1919.				
January	....	8	....	8	April	....	53	....	53
February	....	33	....	33	May	....	53	....	53
March	18	39	....	57	June	40	45	....	85

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of the Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., file "E. E." Misc. Div.)

Statistical data, United States Army Debarkation Hospital No. 5, Grand Central Palace, New York City, from December, 1918, to June 30, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
December	59	7	2	68	478	....	478	....
1919.								
January	69	8	2	79	602	8	610	122
February	69	8	2	79	640	41	681	176
March	74	10	2	86	749	40	789	187
April	78	10	2	90	740	32	772	185
May	58	10	2	70	684	32	716	186
June	7	6	1	14	144	23	167	81

BASE HOSPITAL, CAMP MERRITT, N. J.[a]

Situated almost midway between the small towns of Cresskill and Dumont, three-fourths of a mile due west, the base hospital at Camp Merritt was pleasantly located in the southeastern part of Bergen County, N. J. Englewood was the nearest large town, about 5 miles distant, and Hoboken, the port of embarkation, lay 14 miles to the south. Both Cresskill and Dumont contained railroad stations. A spur of the Erie Railroad passed through Cresskill, and Dumont was pierced by the main line of the West Shore Railroad, running from Weehawken, through Dumont, west.

The ridge on which Camp Merritt and the base hospital were situated runs north and south, with a general declivity to the south. The terrain dips moderately toward the west and sharply to the east. To the east, west, and south of the hospital the country was wooded, with alternating stretches of open ground. There was excellent natural drainage, and there was no marsh country within 10 miles of the hospital.

The soil of the region is a light sandy loam with a slight mixture of some gravel. It is neither so friable as to cause high-flying dust in dry seasons nor so compact as to create a tenacious mud after rains.

The climate is typically that of the New England States; that is to say, it is hot in summer, cold in winter, mild during the intervening months, but invigorating throughout. This is not a region of high winds. The usual thing is for a light breeze to blow either from the west or north.

The roads about the base hospital were in the usual condition of dirt roads at the time of the organization of the hospital. They were good in good weather and very bad after rains. During the summer of 1918 concrete roads were laid to the extent of 1,117 yards; macadam roads, 1,350 yards; cinder roads, 660 yards; and 2,450 yards of road were improved. The interior roads of the hospital were constructed of crushed stone, tarvia covered.

In the latter part of August, 1917, some of the barracks of the camp had been roofed. In these accommodations were obtained for members of the

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Merritt, N. J.," by Maj. J. I. Sloat, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

Medical Department assigned to the base hospital. From Madison Barracks came 3; from Fort Hancock, 12 men, with 2 noncommissioned officers. This handful constituted the enlisted personnel until October 6, 1917, when 30 men arrived from Fort Ethan Allen, Vt. During the month of September the few men on duty at the hospital were messed by the Red Cross Society at Englewood, N. J., their food being brought by motor car. They slept in the half-completed barracks.

While the hospital was in the course of construction throughout the summer and fall of 1917 the 12-bed hospital and dispensary fitted up by the contractors, at their own expense for the use of their own men, was made use of to care for medical cases, accidents, etc., occurring among civilian help. Accidents were not uncommon at that time, and members of the medical detachment were assigned to duty in turn to work in this dispensary and hospital for the sake of the training afforded in emergency work. The Red Cross Society at Cresskill, 1 mile east of the hospital, offered the use of its building in October, 1917, as a temporary hospital, and some patients were transported thither by ambulance. During November, troop movements through Camp Merritt, which was then beginning to take its place among the embarkation camps, became a matter of importance to the camp hospital because of the number of sick attached to these moving organizations that were dropped for immediate medical attention. In the absence of adequate local hospital quarters the serious cases were sent to St. Mary's Hospital, Hoboken, N. J., a distance of about 14 miles, by combined ambulance and train service. This necessitated too much handling of patients and too long a trip for the very sick, and on December 19, 1917, through verbal instructions from the surgeon, port of embarkation, the commanding officer of the hospital took over two wards in the civil hospital at Englewood, N. J., for the use of sick soldiers, the Medical Department furnishing the supplies for them. This meant a journey of 5 miles only, entirely by ambulance, the fatigue of which could be well borne. This arrangement with the Englewood Hospital continued to operate until the opening of the base hospital on January 9, 1918.

No definite date can be easily fixed upon as the date of organization of the base hospital. On October 29, 1917, a commanding officer of the base hospital was designated. This was, perhaps, the date of organization of the hospital, for an officer was assigned charge of the medical service, another was made acting chief of the surgical service, and a third combined the duties of commanding officer of the Medical Department detachment and the adjutant. It was well on toward the month of December, 1917, however, before the staff of the base hospital had been augmented sufficiently to care for the needs of the hospital service. On January 9, 1918, the base hospital was formally opened with a personnel of 20 commissioned officers, 11 nurses, 97 enlisted men, and a bed capacity of 416.

The standard type was adopted for the buildings of the hospital. The wards were 166 by 25 feet, with screened-in porches on two sides. The first building of wards, which was the first stage of construction for the hospital, was in the form of a 4-sided figure, the 16 wards forming in their 2 batteries of 8 wards on a side, the east and west sides of the figure; the administration building, officers' quarters, and receiving ward the north side of the line; while the mess hall, kitchen, post exchange, and medical supply warehouse No. 1 roughly constituted the south line. These buildings with the auxiliary structures for quarters, chapel, morgue, laundry, garage, power house, etc., constituted the first stage in the construction of the base hospital, answering to the need of a 500-bed institution.

Without pause the second stage of construction was entered upon in the spring of 1918. The additional buildings erected then comprised 16 wards, extending the original side of the quadrangle farther to the south, one extensive officers' ward with kitchen and mess room attached; an elbow to one of the wards; warehouse No. 2; a wing on the northeast and a wing on the northwest corner of the mess hall, doubling the seating capacity thereof; additions to the receiving ward to afford additional space for men's belongings; three additional barracks and a bathhouse for the quarters for the personnel.

Although the construction itself can be strictly divided into its four proper stages, it is by no means easy to affix to each stage a definite date of commencement, for the reason that every stage was overlapped by the stage that preceded or followed. Thus the third stage, wherein the effort was almost localized to the southern portion of the hospital, was begun before the second stage was half completed in the early summer of 1918. At this time the convalescent wards or ward barracks, with a large kitchen and mess hall, were constructed. The new wards were in part shaded by the trees of the original woods, which were cut and trimmed with that end in view. A new set of officers' quarters was also added at this time at the northwest portion of the hospital area. It was fitted with two bathhouses, a library, sleeping room, and a large reception room. An extensive addition was made to the nurses' quarters and connected with the hospital proper by covered corridor.

The sweeping epidemic of influenza which so taxed the utmost resources of the Camp Merritt base hospital during the months of September and October, 1918, when 3,800 beds and cots were occupied by sufferers from influenza and its sequelæ, found the fourth stage of construction so well advanced that nine new wards were completed and equipped to receive this influenza rush. Fortunately the property officer, with sufficient foresight, had acquired supplies of mattresses, bedding, etc., well in advance of the need of the moment, anticipating some such strain. Everything except sufficient iron beds was on hand. Cots were lent by the Quartermaster Department, and by utilizing the verandas and all idle space in the wards the hospital was able to take care of 3,800 patients on a normal bed capacity of 2,500. The fourth stage of construction included also a new isolation ward on the northeast corner of the group of four; a new warehouse to the rear of warehouse No. 1; a new diet kitchen; enlargement of the general mess by means of a double extension on each end, doubling the already increased seating capacity; and a new wing on the east end of the receiving ward, making it adequate for the storage of 2,565 separate packages of soldiers' effects. The administration building also was enlarged by a new wing, which made a single well-lighted room with daylight on both sides of its length, for use of the service-record department and the sick-and-wounded department.

A standard mess hall, general kitchen, diet kitchen, barber shop, and storeroom, planned for the requirements of a 500-bed hospital, were installed at

Camp Merritt and necessarily underwent several phases of enlargement and reconstruction on the many calls for more room and more efficient service. When the hospital was opened on January 9, 1918, the food for the personnel and for all patients except those requiring special diets was prepared in the mess kitchen. Meals were then served in an established order, namely, to the patients in the ward first, then to the ambulant patients able to walk to the mess hall, and then to the duty personnel. The food for those patients who required special diets was prepared in the diet kitchen. The nurses ate in a mess hall of their own, which was located in the building assigned to them for use.

In the early spring of 1918, the period corresponding to the second stage of reconstruction, the general mess hall was enlarged by the addition of two end wings which converted the original T-shaped room into an E-shaped one, and provided a seating capacity of 750. Shortly after, it became apparent that the new wards in process of construction in the wooded area at the south of the hospital group would require a separate mess hall, a general kitchen, and a diet kitchen. A request for the construction of these additional messing facilities was accordingly made and in the latter part of July, 1918, this building was completed and placed in operation. In the early autumn of 1918 the final enlargement of the general mess hall and kitchen was effected by converting the E-shaped mess hall into a rectangular figure, providing a seating capacity of 1,150, and by adding to the main kitchen the space previously occupied by the adjacent diet kitchen, through the elimination of the partition that had separated the two, and the installation there of steam cooking apparatus for use in the general mess. Meanwhile a new diet kitchen was under construction. This new diet kitchen, which was opened in September, 1918, in good time for the influenza epidemic which followed in the succeeding month, had received very close attention on the part of the personnel of the hospital, and the care bestowed on this adjunct was well repaid by the excellent service later rendered. At the time of its opening about 300 light diets, 80 liquid diets, 10 soft diets, and 3 special diets were served therefrom daily. During the epidemic of influenza and pneumonia that followed, the maximum daily service from this single kitchen was 1,700 light diets, 400 liquid diets, 50 soft diets, and 13 special diets. The location of the new diet kitchen was selected from the special viewpoint of the necessities of the special-diet service; that is to say, it had adequate outside light, it was surrounded by porches, there were corridor connections for the use of orderlies carrying meals to patients, and there was proper equipment for the storage of food and its preparation for special diets.

With the exception of the head nurse, practically the entire nursing personnel at the base hospital was composed of nurse units arriving at this hospital for training in Army work prior to their departure for duties overseas. The chief nurse arrived for duty at the hospital on January 6, 1918, a day before the nurses' quarters at the hospital were ready for occupancy. She and several assistants slept this first night in one of the office buildings and moved to the nurses' quarters the day following. Accommodations in the nurses' quarters were at first of the crudest. For five days, while the dining room was being prepared, the nurses' meals were supplied from the enlisted men's mess. After that the nurses had their own mess in their quarters and ate food prepared in their own kitchen. Before the end of January, 48 nurses were domiciled at the nurses' quarters. On February 10, 1918, the additional nurses and night nurses made it imperative that the building subsequently used as the post exchange be turned over to the nursing staff and fitted up for their use. Within a few weeks these quarters were outgrown, and on March 31 the nursing staff, then numbering 77, was given an additional set of quarters at the southern portion of the hospital. To this additional set of quarters the construction of an enlargement was completed by May 3, 1918, adding to the existent accommodations 87 rooms for nurses and 9 rooms for servants.

In August the Red Cross presented to the base hospital a fine nurses' recreation house, built and equipped at a cost approximating $10,000. The recreation house contained all the comforts and many of the refinements of home life and included a library, reception room, suitable for dances, and a kitchen with modern conveniences. The recreation house was utilized to great advantage during the epidemic of influenza in September and October, 1918. On September 22, the day when the epidemic really got started at the hospital, an immediate call was made for additional nurses. Immediately these nurses began to arrive from the different replacement units then mobilizing in New York City. In order to accommodate the extra number, 34 cots were placed in the nurses' Red Cross Recreation House, in addition to 100 which were placed in the Red Cross Convalescent House. On November 1, 1918, a large and handsome private residence in the vicinity of the base hospital was requisitioned as an additional nurses' quarters. This dwelling accommodated 38 nurses quite satisfactorily and served to relieve the congestion in the dining room of the main nurses' house.

A laundry building 25 by 125 feet was erected coincidently with the original buildings of the hospital group, and prior to the date of the opening of the hospital it had been provided with laundry machinery. Unfortunately, the machinery was of a type adequate for a 100-bed hospital only. Consequently, the building could be used only as a place for the exchange of clean for soiled linen. By authority of the Surgeon General dated January 12, 1918, the laundry work of the hospital was done by a commercial laundry at Hackensack, N. J. The arrangement was entirely satisfactory, but by the end of February, 1918, the Government had taken over for its own use a large laundry at Hoboken, and on March 1, 1918, the base hospital laundry work was transferred to Hoboken daily by means of a motor-truck service. This service, thoroughly satisfactory in its practical results, continued throughout the existence of the hospital. It is of interest to know that the bill for laundry work done for the hospital for the month of October, 1918, was $11,000.

The hospital chapel was also among the first buildings to be erected. It was used daily for funeral services for patients dying at the hospital, but at different times it was put to other uses. During the influenza epidemic in October, 1918, the dead which exceeded the capacity of the adjoining mortuary were placed in the chapel while awaiting disposition.

For the storage of the medical supplies required by the base hospital there were provided three warehouses located south of the main portion of the hospital. Each building was 25 by 125 feet. To one of them was added an annex of equal dimensions for the use of issues and current stock only.

An efficient sterilizing plant consisting of one permanently installed sterilizer and one portable sterilizer was installed in the south end of the laundry building. The portable sterilizer was never used as a portable apparatus, but was converted into a stationary machine by affixing it to the exterior of the building and connecting it with the steam pipe from the central heating plant. The sterilizing for the whole camp was accomplished at the base hospital. Four men on duty constituted the personnel assigned for this work.

It was early recognized that a post exchange would materially add to the satisfaction of the enlisted personnel and to the comfort of the convalescent patients, and a beginning was made in February, 1918, in a small room intended as a storeroom of the general mess hall. The mess officer started the post exchange with $50 of his own funds. The business of the exchange rapidly outgrew its confined quarters and in the latter part of May, 1918, it was transferred to a building facing the general mess hall on the north. A general stock of goods of all kinds was carried. The value of the business done averaged in gross sales $500 daily. At one end of the post exchange building there was a hospital barber shop, equipped with seven modern chairs, hot and cold water service, electric attachments, sanitary white enamel fixtures, and nickeled plumbing. The sterilizing of brushes and instruments was carefully performed and a condition of spotless cleanliness prevailed throughout.

On March 26, 1918, a site was allotted by the commanding officer of the hospital upon which to erect the Red Cross house for convalescent patients. This house was completed and furnished by June 27, 1918, at a cost of $24,000 and was turned over to the commanding officer of the hospital on that day, to be used for the benefit of patients. The building was designed in the form of a cross, the large central space forming the assembly room. It was equipped with comfortable chairs, rugs, tables, reading matter, writing materials, a piano, etc., and was later provided an excellent library donated by the American Library Association. One arm of the building connected directly with the corridors along which the patients, under cover in wet weather, walked to the Red Cross house through the convalescent wards adjoining. One arm was filled by a stage for entertainments of various sorts, at either side of which there was a dressing room for the convenience of performers. A small canteen where candy and tobacco were purchasable was situated just off the central space on the ground floor. The offices of the house director and of the social service worker occupied the two remaining arms of the building. The upper story was divided into 12 bedrooms, some of which were used for the Red Cross staff and some were held unoccupied as emergency bedrooms for relatives of soldiers sick in hospital.

The water supply of the base hospital and Camp Merritt was the Hackensack River. The water was furnished by the Hackensack Water Co. from its watershed 3 miles north of Camp Merritt. A pumping station near the town of New Milford, controlled and policed by the military authorities, drew the water from the Hackensack River into a sediment reservoir, from which it flowed through modern filters to storage tanks, where it was treated by chlorination. After this process it was pumped into the large mains that distributed it to the camp, to the hospital, and to the surrounding towns that lay within a radius of 16 miles. Frequent analyses showed the water to be of the highest quality.

The sewerage system of the hospital was identical with that of the camp. The trunk line of the sewerage system discharged into a disposal plant situated between the towns of New Milford and Dumont, about 2 miles west of the hospital. This disposal plant consisted of three double-chambered, covered, settling tanks and three double evaporating and settling beds.

The method of handling the hospital garbage was simple and highly effective. In the mess kitchens, whence came the bulk of all garbage, the waste material was carefully separated into three classes: tin cans, broken glass, and china; combustible material such as paper, wood shavings, etc.; food refuse such as coffee grounds, egg shells, peelings, etc.

The standard metal garbage cans with well-fitted covers were marked to indicate the class of garbage for which it was used. As the cans became filled they were placed outdoors on raised platforms at the right side. Daily these filled cans were removed from all garbage stands and at the same time were replaced by a supply of clean, disinfected, empty cans.

The problem of heating the institution of the size and character of the base hospital, Camp Merritt, was a difficult one because the plan of construction had of necessity to be an elastic plan to provide for frequent additions to the details of the heating plant. This difficulty was not made lighter by reason of the fact that the distribution pipes of the heating system had to be suspended above ground and could not, on account of the time factor in the case, feed an underground return system. The main heating plant was equipped with five return tubular boilers of 150 horsepower each, giving a total potential of 1,200 horsepower for winter use, 300 horsepower being sufficient for the summer months. The final insulation of the overhead pipes threading the corridors of the hospital to deliver steam to the 16 wards completed in the first stage of hospital construction was not accomplished until the middle of April, 1918, by which time it was apparent that the power house would be adequate only for the needs of a 500-bed hospital; therefore, a second power house was located at the extreme southern boundary of the ultimate hospital group. This second power house was equipped with two tube boilers of 500 horsepower each and two water pumps capable of handling 15,600,000 pounds of water per month.

The source of artificial light and power for the camp was selected as the logically right source for the hospital, and the Public Service Electric Co. of New Jersey, deriving power from its main generating plant 5 miles out of Jersey City, put in a transformer and substation to supply the hospital with light and power. The current was developed throughout the hospital by 19 subtransformers operated by snap switches. The lighting problem of the hospital was quite adequately met by the methods employed, the service being in every respect satisfactory.

Statistical data, United States Army Base Hospital, Camp Merritt, N. J.; from December, 1918, to December 15, 1919, inclusive.[a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
December	1,155	77	2,306	20	3,558	428	17	134	23	......	......	2,155	12	789	......	41,637	......
1919.																	
January	789	160	1,500	54	2,503	709	19	4	44	......	......	580	24	1,123	......	24,248	......
February	1,123	142	1,456	42	2,763	783	23	2	29	......	......	707	31	1,188	......	21,995	......
March	1,188	141	2,030	62	3,421	933	9	......	36	......	......	1,498	19	926	......	31,271	......
April	926	125	2,002	33	3,086	1,355	10	......	......	......	......	338	42	1,341	......	26,477	......
May	1,341	90	4,614	31	6,076	2,207	5	1	39	......	......	2,178	19	1,627	......	38,361	......
June	1,627	68	5,358	48	7,101	2,270	7	1	39	......	......	3,083	34	1,667	......	40,560	......
July	1,667	60	3,653	39	5,419	1,688	5	......	24	......	......	2,623	11	1,068	......	44,095	......
August	1,068	56	2,040	29	3,193	778	5	......	21	......	......	1,533	16	840	......	29,541	......
September	840	29	1,266	15	2,150	563	1	......	......	......	......	1,021	37	528	......	23,535	......
October	528	333	3,488	24	4,373	539	5	6	......	......	......	2,323	103	1,397	......	22,627	......
November	1,397	212	683	6	2,298	316	5	......	......	......	......	1,837	39	101	......	13,842	......
December	101	16	......	......	117	24	1	......	......	......	......	92	......	......	......	800	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
December	......	21	......	21	June	......	21	......	21
					July	......	21	......	21
1919.					August	......	21	......	21
January	1	25	......	26	September	......	36	......	36
February	......	23	......	23	October	......	20	......	20
March	......	20	......	20	November	......	20	......	20
April	......	21	1	22	December	......	20	......	20
May	......	18	......	18					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
December	86	5	2	93	739	48	787	203
1919.								
January	96	6	2	104	820	53	873	196
February	71	6	2	79	789	68	857	183
March	68	6	2	76	781	67	848	179
April	66	5	2	73	762	67	829	172
May	61	5	2	68	763	66	829	165
June	58	6	2	66	890	37	927	165
July	77	5	2	84	892	1	893	160
August	67	4	......	71	530	......	530	140
September	58	4	......	62	543	......	543	107
October	53	1	......	54	692	......	692	119
November	41	1	......	42	276	......	276	97
December	......	......	......	......	47	......	47	......

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., file "E. E." Misc. Div.)

BASE HOSPITAL, CAMP MILLS, LONG ISLAND, N. Y.[a]

The base hospital at Camp Mills was situated in Nassau County, Long Island, N. Y., about 10 miles from the eastern boundary of Greater New York, and 1 mile, to the east, from Mineola.

The terrain is practically flat. The soil is a sandy loam in which there is a small amount of gravel. It readily pulverizes in dry weather, forming easily carried dust, and becomes a tenacious mud after rains.

The climate is moderate during the greater portion of the year. In the winter there is an occasional severely cold spell; the spring and fall are delightful; and during the summer about two or three weeks only might be considered uncomfortably warm.

Camp Mills was selected as a mobilization camp for the Rainbow Division (42nd), so called, because the sources of its component elements were geographically diversified. The division assembled in the early part of September, 1917; and, after a training period of one and one-half months, embarked for France. Because it was known that this division would remain but a short time in the United States, and that the subsequent mobilization of divisions was an uncertainty, no cantonment type of base hospital was constructed at Camp Mills at this time. A camp hospital, composed of a few existing buildings and of tentage mostly, was organized for the care of the sick of the 42nd Division.

The organized camp hospital remained at Camp Mills, upon the departure of the 42nd Division, to care for the sick of that command whom it was necessary to leave in the United States. It was fortunate that the hospital was in existence, for on October 26, 1917, the 41st Division was ordered from Camp Greene, N. C., to Camp Mills, with the view to its embarkation for France within a short period.

In the general description of the conditions of the various embarkation and debarkation hospitals at the port of Hoboken, it was related how, because of the total inadequacy of the cluster of hospital tents for the care of the sick of the 41st Division at Camp Mills, supervisory control of the hospital at that camp was given to the port surgeon, Hoboken, and how relief from the situation was had by transferring selected patients to civil hospitals in New York City and on Long Island.

It was not until April 6, 1918, that a base hospital was organized. At this time Evacuation Hospital No. 4 was sent to Camp Mills from Camp Crane, Allentown, Pa., and it was utilized in the establishment of a base hospital.

The fair grounds at Mineola contained 6 cattle sheds, 1 poultry house, 1 grand stand, 5 exhibition buildings, 2 small houses for the storage of paint, and the stables. These buildings were occupied by Evacuation Hospital No. 4 on April 9, 1918.

The stables were utilized for quarters for officers. The nurses were domiciled in houses in Mineola, rented by the Quartermaster Corps. The enlisted men were quartered partly in the stables and partly in tents.

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[a] The statements of fact appearing herein are based on the "History, Base Hospital, Camp Mills, Long Island," by Lieut. Col. A. W. Cutler, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

The hospital mess was at first located in the poultry house. This arrangement was found to be very unsatisfactory, and the lower portion of the grand stand was converted into a kitchen and mess hall, where the enlisted men and ambulatory patients ate. The officers of the organization maintained their own mess in the stables, using the broad isle between the stalls—the sleeping compartments—for a dining hall.

There were no storehouses, so tents and sheds were used in which to store the supplies.

The water supply was derived from Mineola. Its source was artesian wells, and the quality of the water was so excellent as to require no purification treatment.

A sewerage system was constructed so as to connect the various buildings of the fairgrounds with a main sewer, the outlet of which was a small sewage-disposal plant on the grounds. Each cow shed contained two toilet bowls, and each exhibition building had five.

The garbage from the hospital was disposed of to local farmers, who made collections twice daily.

On May 6, 1918, the construction of a surgical pavilion was begun. This building comprised seven rooms and some linen closets, and was planned to house not only the surgical activities, but the eye, ear, nose and throat, X-ray, dental, and genitourinary departments. It was ready for occupancy June 15, 1918, but could not be utilized for surgical operations until later, because of the lack of equipment.

On September 16, 1918, the constructing quartermaster received authority to construct a semipermanent 2,000-bed base hospital. A site was selected northwest of Camp Mills and just to the east of the fairgrounds. Work on the construction of the hospital was rapidly pushed, and the first 600 beds were ready for occupancy on October 26, 1918. The entire group of buildings was completed by February 1, 1919.

The arrangement of the buildings conformed to the ultimate block plan designed in the office of the Surgeon General—block plan E, Figure 13. Each building was two-storied, and, because of the close proximity to one another, were made of fire-resisting material—metal lath with stucco covering.

On September 18, 1919, there being no further use for it, the base hospital was abandoned.

Statistical data, United States Army Base Hospital, Camp Mills, Mineola, Long Island, N. Y., from April 6, 1918, to September 18, 1919, inclusive.[a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
April	......	26	707	46	779	227	5	......	......	......	......	9	1	537	......	6,002	......
May	537	37	931	......	1,505	839	8	......	......	......	......	142	1	515	......	14,306	......
June	515	16	1,408	......	1,939	945	3	......	......	......	......	213	1	777	......	20,048	......
July	777	34	1,974	1	2,786	1,189	2	1	3	......	......	409	1	1,181	......	32,524	......
August	1,181	31	1,606	......	2,818	1,498	......	......	......	......	......	150	......	1,170	......	35,730	......
September	1,170	79	2,034	1	3,284	1,200	7	......	6	......	......	102	......	1,969	......	41,281	......
October	1,969	179	3,140	10	5,298	2,870	340	......	13	......	......	75	1	1,999	......	77,085	......
November	1,999	84	997	5	3,085	1,746	35	......	2	......	......	561	1	740	......	35,216	......
December	740	113	729	20	1,602	933	27	12	7	......	......	231	11	381	......	1,944	......
1919.																	
January	381	100	711	6	1,198	663	9	29	2	......	......	28	9	458	......	12,647	......
February	458	77	678	4	1,217	713	7	52	......	......	......	14	1	430	......	13,625	......
March	430	91	871	8	1,400	743	8	51	......	......	......	40	7	551	......	16,597	......
April	551	72	844	16	1,483	689	11	61	8	......	......	61	9	644	......	16,273	......
May	644	64	516	9	1,233	684	8	77	4	......	......	77	9	374	......	15,093	......
June	374	36	382	4	796	424	3	13	1	......	......	97	5	253	......	8,801	......
July	253	13	340	12	618	365	3	2	......	......	......	39	9	200	......	6,066	......
August	200	6	95	8	309	178	3	1	......	......	......	52	6	69	......	2,332	......
September	69	2	84	1	156	55	......	......	2	......	......	95	4	......	......	940	......

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
April	23	1	1	25	100	15	115	....
May	30	1	1	32	315	20	335	37
June	36	1	1	38	389	20	409	36
July	40	1	1	42	447	20	467	56
August	45	2	1	48	443	18	461	55
September	42	1	1	44	439	16	455	79
October	60	2	1	63	426	17	443	105
November	64	2	1	67	474	17	491	102
December	58	2	1	61	463	17	480	183
1919.								
January	51	3	2	56	388	17	405	177
February	51	4	2	57	469	35	504	175
March	56	4	2	62	496	35	531	160
April	58	5	2	65	538	34	572	152
May	48	6	2	56	512	34	546	149
June	41	5	2	48	405	19	424	137
July	28	5	2	35	271	3	274	94
August	17	2	1	20	134	....	134	41

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office, and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., file "E. E." Misc. Div.)

UNITED STATES ARMY AUXILIARY HOSPITAL NO. 1, NEW YORK CITY, N. Y.[a]

At the Rockefeller Institute, New York City, a war demonstration hospital had been founded, the purpose of which was to demonstrate an exact method of treating infected wounds, following the Carrel-Dakin technique, and to demonstrate the feasibility of a unit system of base-hospital construction. In order that the War Demonstration Hospital might obtain wounded soldiers from the Western Front, it was essential that it have an Army status. Consequently, on August 24, 1918, in order to bring this about, the hospitals in connection with the United States Army Auxiliary Laboratory No. 1 at the Rockefeller Institute for Medical Research were organized as United States Army Auxiliary Hospital No. 1 and placed under the jurisdiction of the commanding general, Port of Embarkation, Hoboken, N. J. Before the hospital was so organized, dependence was placed upon civil cases for clinical purposes and special methods of treatment; but, subsequent to August 24, 1918, the work was practically restricted to the treatment of wounded soldiers. All cases treated in the hospital were infected cases, both acute and chronic. All cases were treated under an exact method, following the basic principles of mechanical cleansing, chemical sterilization, control, and closure.

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[a] The statements of fact appearing herein are based on the "History United States Army Auxiliary Hospital No. 1, New York City," by Maj. George A. Stewart, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

Instructions were given to medical officers of the Army and Navy, to enlisted men of the Army and Navy, to civil surgeons, and to female nurses of the Army and of civil hospitals. Instruction was given for the most part to men in classes in the laboratories, on the wards and in the operating room, and by lectures with lantern slides and moving pictures. The total number receiving instruction was 998. During the life of the hospital 237 patients received treatment in it.

Besides the work of clinical instruction, investigations were made of various substances and apparatus, reports of which were made to the Surgeon General. With the assistance of commercial firms, it was possible to develop several articles of use to the Army.

The need for the hospital ceased to exist during the early part of 1919, and on April 5, 1919, the institution reverted to its former status.

Statistical data, United States Army Auxiliary Hospital No. 1, Rockefeller Institute, New York City, from August 24, 1918, to April 15, 1919, inclusive.[a]

SICK AND WOUNDED.

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
August	2		16		18									18		137	
September	18		27	4	49	5								44		956	
October	44	2	13		59	17	3					2		37		1,346	3
November	37		26		63	9						5		49		1,214	
December	49		12	3	64	8	1					5	1	49		1,492	
1919.																	
January	49		9	1	59	3						17		39		1,451	
February	39		8	2	49	4						10		35		964	
March	35			3	38	2						13	1	22		1,056	
April	22				22							22				114	

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[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

REFERENCES.

(1) Letter from the Division of Special Hospitals and Physical Reconstruction, S. G. O., to Surgeon General, September 18, 1917. Subject: Classification and distribution of invalided officers and men. On file, Record Room, S. G. O., 701-1 (General).

(2) Letter from the officer in charge cantonment construction to the Surgeon General, November 20, 1917. Subject: Report on Fox Hills Hospital site. On file, Record Room, S. G. O., 601 (Fox Hills, Staten Island, N. Y.) S.

(3) Letter from the Surgeon General to the Secretary of War, November 8, 1917. Subject: Clearing hospital, port of New York. Approval of Assistant Secretary of War, dated November 10, 1917, indorsed thereon. On file, Record Room, S. G. O., 601 (Fox Hills, Staten Island, N. Y.) S.

(4) Letter from the Surgeon General to the Quartermaster General, November 15, 1917. Subject: Lease of site for clearing hospital, port of New York. On file, Record Room, S. G. O., 632 (Fox Hills, Staten Island, N. Y.) F.

(5) Seventh indorsement from the representative, real estate service, Eastern Department, to the Director of Real Estate Service, May 7, 1920. Subject: Leases on premises occupied by General Hospital No. 41, Fox Hills, N. Y. On file, Record Room, S. G. O., 680.4 (Gen. Hosp. No. 41) K.

(6) Shown on plans of hospital, Fox Hills, N. Y. On file, Hospital Division, S. G. O.

(7) Letter from the Surgeon General to the Quartermaster General, December 26, 1917. Subject: Clearing hospital, Fox Hills, N. Y. On file, Record Room, S. G. O., 632 (Deb. Hosp. No. 2) I.

(8) Report from commanding officer, General Hospital No. 41, Fox Hills, N. Y., to the Surgeon General, June 30, 1920. Subject: Report of activities. On file, Historical Division, S. G. O. (Gen. Hosp. No. 41).

(9) Letter from The Adjutant General to the Surgeon General, March 14, 1918. Subject: General hospitals, designation of. On file, Record Room, S. G. O., 322.3 (General Hospitals) K.

(10) Letter from The Adjutant General to the Surgeon General, May 10, 1918. Subject: Designation of hospital at Fox Hills, Staten Island, N. Y. On file, Record Room, S. G. O., 322.3 (Deb. Hosp. No. 2) I.

(11) Second indorsement from The Adjutant General to the Surgeon General, July 23, 1918. Subject: Change in designation of hospitals. On file, Record Room, S. G. O., 322.3 (Port of Emb., Hoboken, N. J.) N.

(12) Shown on bed reports. On file, Record Room, S. G. O., 632 (U).

(13) First indorsement from The Adjutant General to the Surgeon General, March 8, 1919. Subject: Change of designation of hospital, Fox Hills, N. Y. On file, Record Room, S. G. O., 680.1 (Deb. Hosp. No. 2) I.

(14) Report on Nassau Hotel, Long Beach, Long Island, N. Y., July 25, 1918. On file, Record Room, S. G. O., 601 (Nassau Hotel, Long Beach, N. Y.) S.

(15) Letter from John Seager, president Nassau Hotel Co., to the Surgeon General, December 4, 1917. Subject: Nassau Hotel. On file, Record Room, S. G. O., 601 (Nassau Hotel, Long Beach, N. Y.) S.

(16) Letter from the Surgeon General to the Chief of Staff, May 22, 1918. Subject: Lease of Nassau Hotel, Long Beach, Long Island, N. Y. And indorsements thereto. On file, Record Room, S. G. O., 601 (Long Beach, N. Y.) S.

(17) Memorandum from the Director of Purchase and Supplies to the Director of Operations, General Staff, July 12, 1918. Subject: Lease of Nassau Hotel, Long Beach, N. Y. On file, Record Room, S. G. O., 601 (Nassau Hotel, Long Beach, N. Y.) S.

(18) Second indorsement from The Adjutant General to the Surgeon General, September 19, 1918. Subject: Designation of hospital. On file, Record Room, S. G. O., 322.3 (Debarkation Hospital No. 4) I.

(19) Letter from the Surgeon General to the Construction Division, War Department, August 14, 1918. Subject: Repairs and alterations, Hotel Nassau, Long Beach, N. Y. On file Record Room, S. G. O., 632 (Long Beach, L. I., N. Y.) F.

(20) Letter from the constructing quartermaster, Lakewood, N. J., to the Chief of the Construction Division, March 8, 1919. Subject: Alterations made at Nassau Hotel, Long Beach, N. Y. On file, Record Room, S. G. O., 481 (Gen. Hosp. No. 39) K.

(21) First indorsement from The Adjutant General to the Surgeon General, December 9, 1918. Subject: Designation of general hospital. On file, Record Room, S. G. O., 322.3 (General Hospital No. 39) K.

(22) Shown on bed reports. On file, Record Room, S. G. O., 632 (U).

(23) Letter from the Surgeon General to the Director of Operations, office of the Chief of Staff, February 19, 1919. Subject: Cancellation of leases. On file, Record Room, S. G. O., 481 (Gen. Hosp. No. 39) K.

(24) Letter from the commanding officer, General Hospital No. 39, to the Surgeon General, May 19, 1919. Subject: Report of abandonment of this hospital. On file, Record Room, S. G. O., 602 (Gen. Hosp. No. 39) K.

CHAPTER XXXIV.

NEWPORT NEWS, VA.

DEBARKATION HOSPITAL NO. 51 (GENERAL HOSPITAL NO. 43), HAMPTON, VA.

On July 13, 1917, the Surgeon General recommended to the Secretary of War that steps be taken to secure the Southern Branch of the Soldiers' Home at Hampton, Va., for use as a general hospital.[1] This place was delightfully situated, fronting on Hampton Roads, and comprised a group of permanent buildings, most of them brick, scattered over an area of 85 acres. The grounds were very attractive and the buildings, in the main, quite suitable for hospital purposes. There were barracks for approximately 2,500 persons, 11 of brick and 5 of frame. There were heating, lighting, and refrigerating plants, and a laundry and bakery. The home hospital had 250 beds, and there was available space for 100 attendants. The grounds afforded ample space for potential expansion. In addition to all these desirable qualities its most valuable asset lay in its close proximity to the Port of Embarkation, Newport News.[2]

A bill to transfer the home to the War Department for the period of the war was introduced in Congress August 10, 1917.[3] This was followed by a protest by the then governor of the home, which was filed against the enactment of the necessary legislation by the Congressman who had introduced the bill. When the Surgeon General learned of this he asked that the bill be withdrawn, and the whole matter dropped.[3] The old soldiers, however, at a mass meeting called for another purpose, overwhelmingly voted for the transfer.[3]

Time went on and the surgeon of the Port of Embarkation, Newport News, was relying mainly for his debarkation hospital facilities upon the embarkation hospital at Camp Stewart. This hospital, therefore, in the summer of 1918 was serving not only as the hospital for the large number of sick from this embarkation camp, but was receiving the overseas sick returning to Newport News.

The bill transferring the Soldiers' Home to the jurisdiction and control of the War Department for the period of the war passed the Senate on October 24, 1918,[4] and at once occupation of the empty buildings began under the direction of the port surgeon. The bill was not approved until November 7, 1918, but in the meantime all arrangements had been made.[5] Due to the prompt action on the part of the port authorities, the earnest cooperation of the Soldiers' Home officials, and the willingness of the old soldiers themselves, this institution had been completely turned over by November 8, 1918,[6] and on the 23d of that month it was designated Debarkation Hospital No. 51 and placed under the jurisdiction of the commanding general, Port of Embarkation, Newport News.[7]

In order to increase the efficiency of the institution, to enlarge its capacity, and to provide facilities for the handling of large numbers of sick being trans-

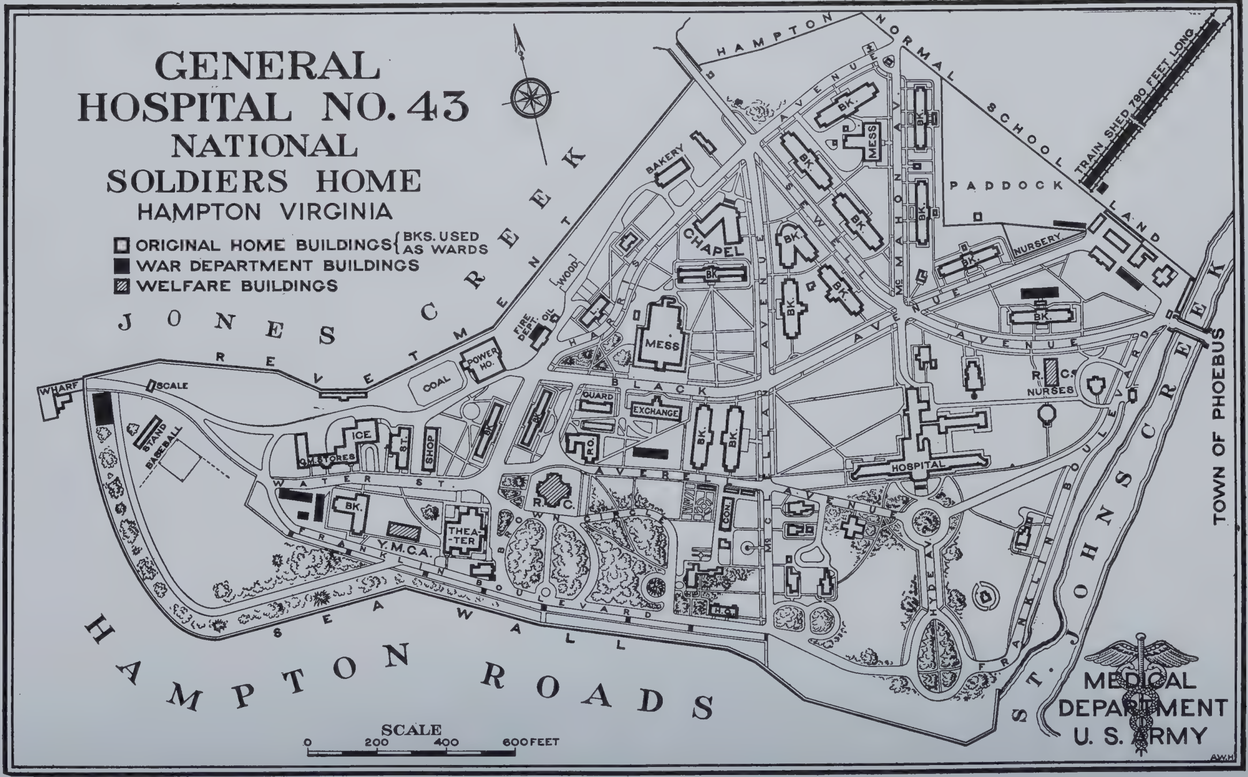
GENERAL
HOSPITAL NO. 43
NATIONAL
SOLDIERS HOME
HAMPTON VIRGINIA
ORIGINAL HOME BUILDINGS { BKS. USED AS WARDS
WAR DEPARTMENT BUILDINGS
WELFARE BUILDINGS
JONES CREEK
REVETMENT
HAMPTON ROADS
SEA WALL
ST. JOHNS CREEK
TOWN OF PHOEBUS
HAMPTON NORMAL SCHOOL LAND
TRAIN SHED 780 FEET LONG
PADDOCK
NURSERY
BAKERY
CHAPEL
MESS
BK.
HOSPITAL
R. C.
NURSES
EXCHANGE
GUARD
R.O.
CON.
H.Q.
THEA-TER
Y.M.C.A.
ICE
Q.M. STORES
ST.
SHOP
COAL
POWER HO.
FIRE DEPT.
OIL
WOOD
WHARF
SCALE
STAND
BASEBALL
WATER ST.
BLACK AVENUE
AVERELL AVENUE
SEWELL AVENUE
MC MAHON AV.
MC C.
HYDE AV.
FRANKLIN BOULEVARD
BOULEVARD
BROWN CIRCLE
HARRIS
AVENUE
MEDICAL DEPARTMENT U. S. ARMY
SCALE
0
200
400
600 FEET
A.W.H.

FIG. 204.

ferred from the port to various general hospitals in the United States, it was necessary to do considerable alteration and construction work. The largest and most important items were construction of a spur track and unloading and loading shed, the installation of fire equipment, considerable alteration to fit the institution to give modern treatment to the insane, the equipment of a laboratory, and considerable work on the heating system of old buildings.[8] The total cost of this work was approximately $250,000.

On April 22, 1919, the hospital being no longer required by the port of embarkation, recommendation was made that it be designated a general hospital on May 1 and put under the direct control of the War Department.[9] At this time it was deemed advisable to concentrate facilities for the treatment of various classes of the insane, and it was believed that this institution was more suitable for that work. The recommendation was approved on May 1.[10] The hospital then began to operate for the first time as a general hospital—General Hospital No. 43—with a capacity of 2,000 beds and 700 sick under treatment.[11] The capacity was promptly cut to 1,000 beds.[11] In two weeks the number of sick had been reduced to 250,[11] due to the elimination of sick recently returned from France and destined for the general hospitals of the interior. With the beginning of the treatment of the insane the number of sick rose, and by the close of May, 1,150 were constantly under treatment.[11] By July, 1,350 (the maximum) were being cared for.[11] A decline now began and continued. By January, 1920, the number had fallen to 360,[11] and on the 8th of that month the Surgeon General recommended the abandonment of the general hospital and its return to the board of governors, to be effective on February 15.[12] This recommendation was not approved until February 20,[13] but pending its approval all arrangements were made, and when the approval was received the work of discharging and transferring actually began. Most of the 275 insane remaining on February 1 were discharged to the Bureau of War Risk Insurance and transferred to the various State institutions designated by that bureau for their reception. The remaining cases, relatively few in number, not eligible to discharge to the Bureau of War Risk Insurance were sent to General Hospitals Nos. 6, and 28, the Walter Reed General Hospital, and the Letterman General Hospital. On March 31 all buildings had been evacuated and the property entirely returned to the board of governors of the Soldiers' Home.[14]

Statistical data, United States Army Debarkation Hospital No. 51, Hampton, Va., from November, 1918, to December, 1919, inclusive.[a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.														
			By transfer.	Otherwise.		Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
1918.																	
November		54	8	48	110	10	1					19	31	49		1,002	
December	49	111	50	1	211	80	8	33				27	8	54	1	1,821	78
1919.																	
January	55	94	16	2	167	50	5					32	6	71	3	1,886	26
February	74	118		1	193	86	1	5				14	1	77	9	869	126
March	86	127		17	230	117	8	4				15	5	76	5	1,189	187
April	81	132		8	221	117	7	1				88	8			1,105	223
May		99	662	10	771	74	5	2				12	11	659	8	11,485	114
June	667	90	1,114	39	1,910	85	2	17				578	50	1,163	15	23,384	111
July	1,178	66	306	53	1,603	155	3	43			2	20	67	1,313		28,100	
August	1,313	69	164	47	1,593	87	7	109				150	40	1,197	3	7,166	47
September	1,200	59	83	34	1,376	51		270				5	35	1,012	3	6,052	108
October	1,015	50	62	33	1,160	55		307				12	24	762		8,437	
November	762	46	59	19	886	53	1	283				7	23	519		18,517	
December	519	43	11	13	586	58	4	128		5		6	23	362		1,227	

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
November	11	10		21	May	10	18	11	39
December	11	10		21	June	10	18	11	39
					July	10	18	10	38
1919.					August	8	14	7	29
January	11	10		21	September	8	14	7	29
February	11	10	2	23	October	8	14	7	29
March	11	10	2	23	November	9	16	10	35
April	11	10	2	23					

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.	Aides and workers.	Other civilian employees.
	Medical Corps.	Sanitary Corps.	Miscellaneous. (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous. (Q. M. C., etc.).	Total.			
1918.										
November	59			59	238		238	75		
December	63			63	820		820	75		
1919.										
January	74			74	749		749	75		
February	72	4	15	91	795	429	1,224	140		12
March	66	4	15	85	754	431	1,185	135		15
April	68	5	20	93	762	441	1,203	135		25
May	34	6	18	58	671	352	1,023	87		39
June	42	7	18	67	585	292	877	91	29	16
July	50	5	20	75	543	147	690	98	45	
August	46	8	19	73	554	50	604			
September	34	7	21	62	569	49	618			
October	29	5	12	46	524	48	572			
November	28	5	10	43	471	47	518			
December	22	5	10	37	277	48	325			

---

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G O , "E. E." Misc. Div.)

DEBARKATION HOSPITAL NO. 52, RICHMOND COLLEGE, VA. (GENERAL HOSPITAL NO. 22).[a] [b]

Debarkation Hospital No. 52 was located in the buildings of Richmond College, on the James River, 9 miles west of the city of Richmond.

The college reservation consisted of a 291-acre tract in the center of which was a lake of about 10 acres in extent. Only one-half of the land was cleared.

The buildings which were acquired and used comprised those of the Westhampton College (for girls) and the Richmond College (for boys). The Westhampton College was a large fireproof building of brick construction, situated on the west of the lake. It was a combination dormitory and school building and contained a kitchen and dining hall. Its hospital bed capacity was 350. The remaining buildings were scattered. The college administration building, on the east side of the lake, was about 1,800 feet from Westhampton College. Its bed capacity was 200. Across a ravine from the administration building, and about 900 feet distant, there were scattered groups of three buildings, two of which had been used as dormitories and one as a kitchen and dining room. One of the dormitories had a bed capacity of 100, and the other, 200. All buildings mentioned were of fireproof construction. About 200 feet west of the administration building, and on the edge of the lake, there was a frame building which had been used as a dance hall. South of the lake there was a two-story, frame building sufficiently large to accommodate 200 enlisted men and a kitchen and mess hall for them.

The terrain is rolling and affords good natural drainage. The soil is a mixture of clay and sand, the clay predominating, readily pulverizing in dry weather, producing an easily carried dust, and becoming a sticky mud after rains. At the time when the place was taken over for use as a hospital the surface was very little denuded, and so there was subsequently not much discomfort caused by either dust or mud.

On June 10, 1918, the commanding officer of the hospital was assigned, and on June 22, 1918, the personnel of General Hospital No. 13, with equipment for a 500-bed hospital, arrived from Dansville, N. Y., which, it will be recalled, was abandoned at that time.

The buildings of the college were used in the following manner: The Westhampton College was fitted up to accommodate 350 patients and to permit the operation of the operating room, the X-ray, eye, ear, nose, and throat departments, the laboratory and the pharmacy. The college adminisration building was converted into a ward building for 200 patients. One of the dormitories across the ravine from the administration building was made into a nurses' quarters for 100 nurses; and the other was made a combination ward and barracks for 75 patients and 130 enlisted men. The third building was used as a kitchen and mess hall for nurses and patients in this group. The dance hall was converted into a two-story ward with a bed capacity of 100. The building south of the lake was made into a barracks for the enlisted force.

The officers were quartered in two buildings which had formerly been occupied by some of the teaching staff of the college.

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[a] The statements of fact appearing herein are based on the "History, Debarkation Hospital No. 52, Richmond College, Va.," by Maj. Arthur B. Crosbie, M. C., U. S. A., while on duty as a member of the staff of that hospital. The material used by him in the compilation of the history comprised official reports from the various divisions of the hospital. The history is on file in the Historical Division, Surgeon General's Office, Washington, D. C.—*Ed.*

[b] After General Hospital No. 22 (Richmond College) was converted into Debarkation Hospital No. 52, the former number was used for the general hospital at Philadelphia (see p. 557).

Four messes were operated. One was in Westhampton, which provided for all the patients and the enlisted personnel assigned to Westhampton; a second was at the east side of the lake, which was for nurses and patients located there; the third mess was in the enlisted men's barracks; and the fourth was conducted by the officers in one of their sets of quarters.

The basement of the Westhampton College was used as a storage place for Quartermaster supplies, and the basement of the administration building was utilized for the storage of Medical Department supplies. In addition to these places a large one-story building, located near the heating plant, was used as a storage place for both Quartermaster and Medical Department supplies. This was a ramshackle structure, however, the floor of which was subjected to flooding in the springtime, and could not be depended upon.

Mention has been made of the fact that, when General Hospital No. 13 was moved from Dansville, N. Y., to Richmond College, equipment for 500 beds was transferred with the personnel. This equipment was later augmented so as to be adequate for 1,000 beds.

The water of the hospital was that of the city of Richmond. Its source was the James River, and to make it potable it was coagulated and sedimented, then filtered through sand beds. Examination made of it at the hospital showed it to be consistently of excellent quality.

The group of buildings was connected with a sewerage system which had been installed by the college authorities. There was a sewage disposal plant, the effluent of which was chlorinated.

For heating the buildings there were three boilers. The system was hot water, and the pipes to the buildings were laid beneath the surface. It operated satisfactorily.

The lighting of the hospital was accomplished by the use of electricity, which was supplied by a power and lighting company of Richmond.

The American Red Cross provided two buildings at the hospital, namely, a convalescent house for the patients, and a recreation house for the nurses. These two buildings provided a center for all the social activities at the hospital.

The Young Men's Christian Association, though hampered by the lack of a building, did much to promote and develop the social and moral tone. Frequent entertainments were provided, athletic equipment was furnished the patients, and a real spirit of service was shown by the Young Men's Christian Association secretary in charge.

When the hospital was organized on June 22, 1918, it was known as General Hospital No. 22, and as such functioned directly under the War Department.

On December 8, 1918, it having become apparent that this hospital could be operated to better advantage as a debarkation hospital than as a general hospital, its designation was changed to Debarkation Hospital No. 52, and thereafter it functioned under the control of the commanding general, Port of Embarkation, Newport News, Va.

The buildings in general were much better fitted for school purposes than for use as a hospital; much space was wasted in the dormitories which had to be used for wards; the sanitary arrangements were wholly inadequate, necessitating the installation of many additional lavatories and baths; no suitable building was provided for surgery, and the mess halls and kitchens were at too great a distance from the wards. In fact, the widely scattered distribution of the buildings presented many almost insurmountable difficulties in the way of administrative control of the hospital. Of course, all these difficulties could have been overcome by the provision of new construction, as there was ample space on the hospital grounds for any requisite number of buildings. With the acquisition of the Soldiers' Home at Hampton, the need of beds at the Port of Embarkation, Newport News, for the debarking sick was not so pressing; consequently, no new buildings were provided at Debarkation Hospital No. 52.

The character of its buildings, as well as the fact that there could not be maintained there a pool of Medical Department personnel to send on trains distributing seriously sick and wounded to interior hospitals, limited the use of Debarkation Hospital No. 52 to ambulant patients.

On May 31, 1919, the buildings were formally evacuated and returned to the custody of the board of trustees of Richmond College.

Statistical data, United States Army Debarkation Hospital No. 52, Richmond College, Virginia, from July, 1918, to April, 1919, inclusive.[a]

SICK AND WOUNDED.[b]

Year and month.	Remaining from last month.	Admissions.			Total to be accounted for.	Completed cases.								Remaining.		Aggregate number of days lost from sickness.	
		From command.	From other sources.			Returned to duty.	Died.	Discharged for disability.	Deserted.	Discharged, expiration of term.	Transferred to insane asylums.	Transferred to other hospitals.	Otherwise disposed of.	Hospital.	Quarters.	Hospital.	Quarters.
			By transfer.	Otherwise.													
1918.																	
July	......	6	1	......	7	3	......	......	......	......	......	......	......	4	......	33	......
August	4	30	12	......	46	30	......	......	......	......	......	......	......	16	......	429	......
September	16	47	78	1	142	22	......	1	......	......	......	13	1	105	......	1,467	......
October	105	191	327	27	650	315	1	......	......	......	......	2	4	328	......	6,564	......
November	328	33	85	13	459	232	2	8	......	6	......	......	9	202	......	8,385	......
December	202	30	61	7	300	105	......	35	......	......	......	123	1	36	......	3,000	......
1919.																	
January	36	53	27	3	119	67	1	1	......	......	......	......	2	48	......	1,404	......
February	48	45	14	15	122	62	1	......	......	......	......	12	2	45	......	1,296	......
March	45	23	1	1	70	46	2	1	......	......	......	14	1	6	......	571	......
April	6	2	......	......	8	8	......	......	......	......	......	......	......	......	......	66	......

CIVILIAN POPULATION WITH THE COMMAND.

Year and month.	Men.	Women.	Children.	Total.	Year and month.	Men.	Women.	Children.	Total.
1918.					1919.				
July	3	31	....	34	January	....	67	....	67
August	1	31	....	32	February	....	66	....	66
September	....	26	....	26	March	....	40	....	40
October	6	46	....	52					
November	....	60	....	60					
December	....	69	....	69					

---

[a] Compiled from monthly returns and sick and wounded reports (Form 52) to the Office of the Surgeon General, on file, Medical Records Section, Adjutant General's Office; and monthly statistical returns made to the Office of The Adjutant General, on file, Statistical Division, Adjutant General's Office (name of hospital).

[b] Sick and wounded figures above do not include patients invalided to the United States from Europe and held in hospital for a few days only while awaiting transfer to other hospitals. (Letter from The Adjutant General to commanding generals, ports of embarkation, on disposition of medical records for patients invalided to the United States. A. G. O., "E. E." Misc. Div.).

Statistical data, United States Army Debarkation Hospital No. 52, Richmond College, Virginia, from July, 1918, to April, 1919, inclusive—Continued.

PERSONNEL ON DUTY.

Year and month.	Officers.				Enlisted men.			Nurses.
	Medical Corps.	Sanitary Corps.	Miscellaneous (Q. M. C., etc.).	Total.	Medical Department.	Miscellaneous (Q. M. C., etc.).	Total.	
1918.								
December	36	6	1	43	296	90	386	62
1919.								
January	38	7	2	47	355	110	465	60
February	26	6	2	34	312	113	425	59
March	9	5	2	16	138	107	245	1
April	9	5	2	16	8	83	91	....
May	2	1	1	4	6	45	51	....

REFERENCES.

(1) Letter from the Surgeon General to the Secretary of War, July 13, 1917. Subject: Use of National Branch, National Soldiers' Home, Virginia, for military hospital. On file, Record Room, S. G. O., 190487 A (Old Files).

(2) Letter from Maj. W. L. Little, M. C., to the Surgeon General, July 9, 1917. Subject: Hospital site, Hampton, Va. On file, Record Room, S. G. O., 190487 (Old Files).

(3) Letter from the Surgeon General to the Secretary of War, May 28, 1918. Subject: Transfer of Southern Branch of National Home for Disabled Soldiers to the Medical Department. On file, Record Room, S. G. O., .002 (Hampton, Va., Southern Branch) (F).

(4) Telegram from the Acting Surgeon General to the surgeon, Port of Embarkation, Newport News, Va., October 26, 1918. Subject: Bill passed Senate October 24, 1918. On file, Record Room, S. G. O., .002 (Hampton, Va.) F.

(5) Act of Congress approved November 7, 1918, Public Act No. 239, Sixty-fifth Congress (H. R. 13,036), approved November 7, 1918.

(6) Letter from the surgeon, Port of Embarkation, to the Surgeon General, November 9, 1918. Subject: Transfer of Soldiers' Home, Hampton, Va. On file, Record Room, S. G. O., 601 (Soldiers' Home, Hampton, Va.) S.

(7) Second indorsement, War Department, A. G. O. to the Surgeon General, November 23, 1918. Subject: Authorizing designation of debarkation hospital. On file, Record Room, S. G. O., 322.3 (Debark. Hosp. No. 51) I.

(8) Letter from commanding general, Port of Embarkation, Newport News, Va., to Chief of Construction Division, December 8, 1918. On file, Record Room, S. G. O., 632 (Debarkation Hosp. No. 51) I. *Also:* Annual Report of the Surgeon General of the United States Army, 1919. Vol. II, 1150.

(9) Letter from the Surgeon General to The Adjutant General, April 22, 1919. Subject: Request designation of general hospital. On file, Record Room, S. G. O., 680.1 (Deb. Hosp. No. 51) I.

(10) Letter from The Adjutant General of the Army to the Surgeon General, May 1, 1919. Subject: Designation general hospital. On file, Record Room, S. G. O., 680.1 (Deb. Hosp. No. 51) I.

(11) Shown on weekly bed reports. On file, Record Room, S. G. O., 632 (U).

(12) Letter from the Surgeon General to The Adjutant General, January 8, 1920. Subject: Discontinuance of General Hospital No. 43. On file, Record Room, S. G. O., 323.72–3 (G. H. No. 43) K.

(13) Letter from The Adjutant General of the Army to the Surgeon General, February 20, 1920. Subject: Discontinuance of General Hospital No. 43. On file, Record Room, S. G. O., 323.72–3 (G. H. No. 43) K.

(14) Letter from the commanding officer to the Surgeon General, April 1, 1920. Subject: Discontinuance of General Hospital No. 43. On file, Record Room, S. G. O., 323.72–3 (G. H. No. 43) K.

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